

UWTSD MBA (May/Nov 2019 intake)
BMMB7006 Global Business Challenges
(4-2)

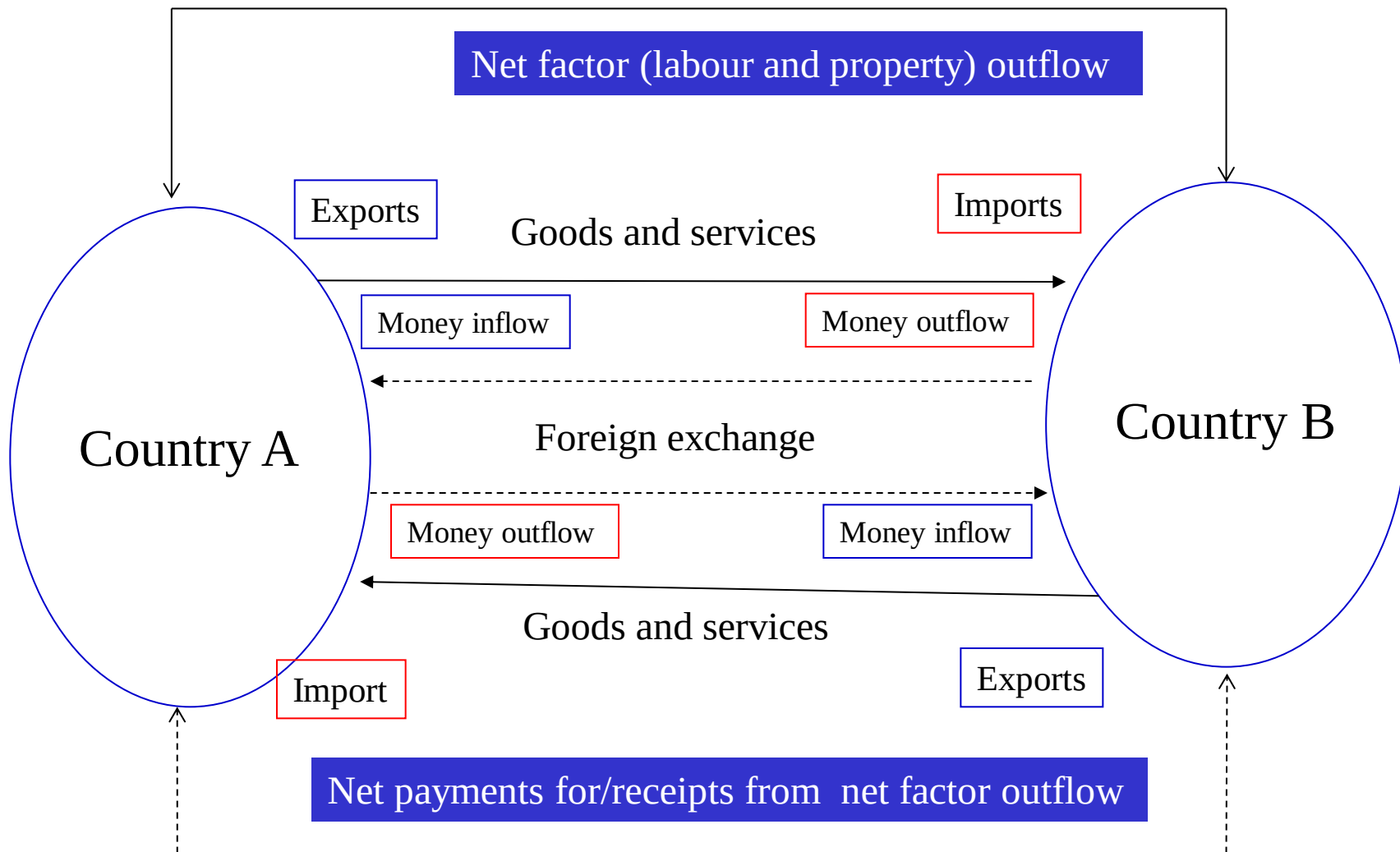
Macroeconomics Foundations II: Global Financial Market

Che Cheong POON
22 February 2020; 2:30 am to 6:00 pm

Lecture Agenda :

- Some Basics
- Balance-of-Payments Accounting
- Markets for interest rate instruments
- The Foreign Exchange Market
- Global Financial Stability Overview

Some Basics



————→ Physical flow (The scope of international trade)

- - - - -> Money flow (The scope of international finance)

Dimensions of a global economy

- Global trade
 - a. in goods
 - b. in services
- Global money (Foreign currency exchange rates)
- Global labour
- Global foreign direct investment
 - a. Plant, equipment, or operations
 - b. Financing or purchase in the form of loans, equity shares, or bonds
- Global flows of capital
 - a. Currency exchange
 - b. Settlements of purchases
 - c. Require international financial institutions to manage

Global Financial Integration

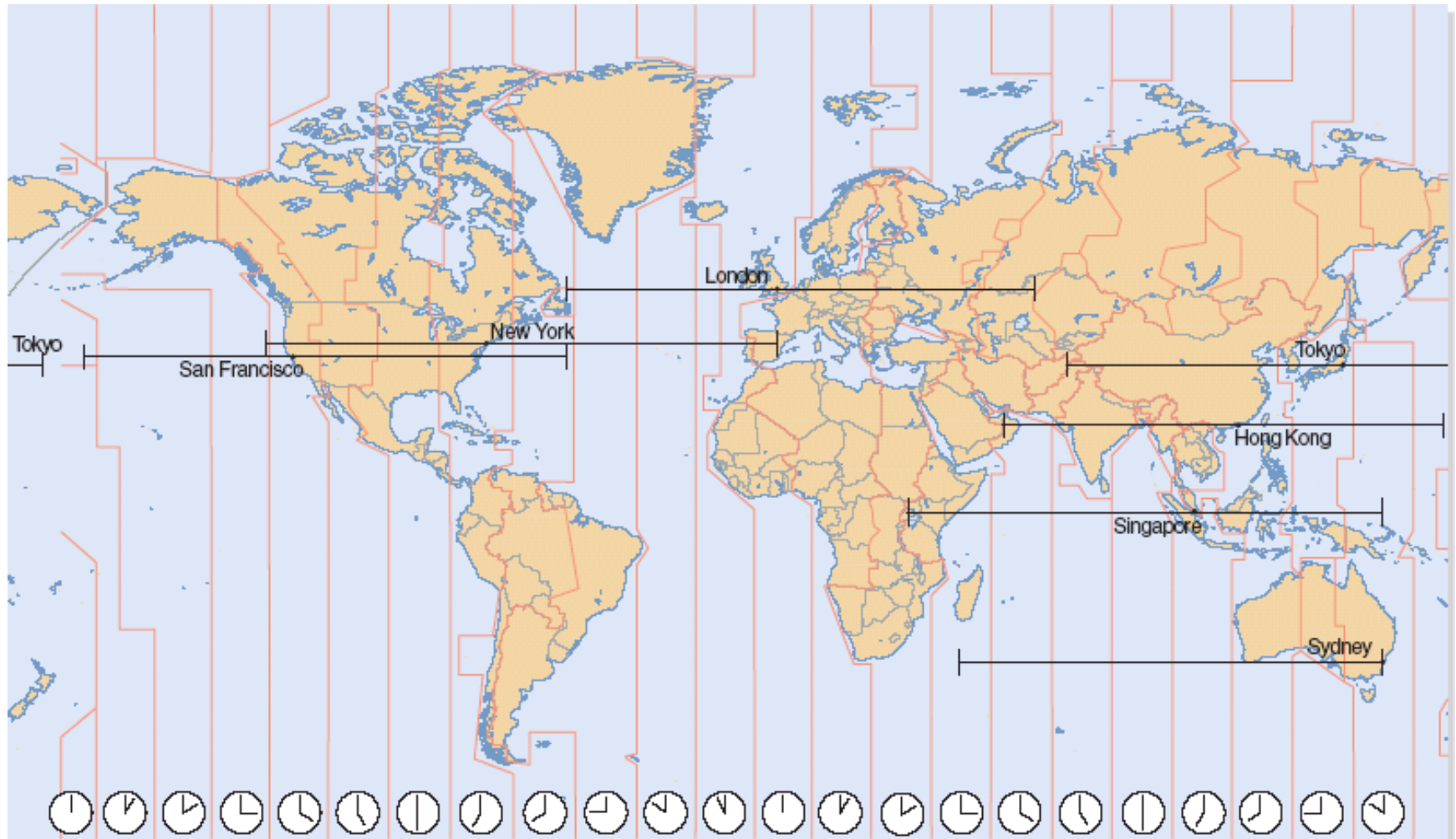
- The world has become increasingly integrated
 - Implying that there is more interdependence
- Problems in one part of the global economic system have ramifications for the entire system
 - Implying that there is more need for global collective action
 - There is greater need for institutions, like the IMF, to regulate the global international financial markets

Classification of Global Financial Market

1. Markets for interest rate instruments;
2. Equity markets;
3. Markets for investment and money market funds' shares/units
4. Foreign exchange markets; and
5. Financial derivatives markets
 - The most relevant types of derivatives are: swaps, options, futures, outright forwards and forward rate agreements.

Since foreign exchange risk and interest rate risk are highly concerned by firms involved in global business, we will focus our discuss on items 1 and 4.

24 Hour Trading



Balance-of-Payments Accounting

Definition

The Balance of Payment is a system statement of all movements of goods and services, financial assets, and reserve assets between one country and the rest of the world over a year and compiled on principles of double-entry bookkeeping.

In Balance-of-Payments Accounting:

A debit entry is any transaction which results in a money outflow or payment to a foreign country (e.g. Imports).

A credit entry is any transaction which results in a money inflow or receipt from a foreign country (e.g. Exports).

A hypothetical Balance-of-Payments

	Credit entry (+)	Debit entry (-)
Current account	Merchandise exports	Merchandise imports
	Export of services	Import of services
	Unilateral transfers from foreigners	Unilateral transfers to foreigners
Current and financial account	Sales of money market assets and financial market assets to foreigners	Purchases of money market assets and financial market assets from foreigners
settlement account	Official sales of gold and foreign currencies reserves	Official purchases of gold and foreign currencies reserves

Balance-of-payments equilibrium and disequilibrium

Two different types of international transactions

Autonomous transactions:

Current account
Short-term capital account
(Financial market assets)

Accommodating transactions:

Official settlement account
Short-term capital account
(Money market assets)

Balance-of-payments equilibrium is a state of balance between Autonomous international payments and receipts over a given period (a several years over a full business cycle)

$$\boxed{\text{Autonomous receipts}} = \boxed{\text{Autonomous payments}}$$

$$F^s = F^d \rightarrow \text{Balance-of-payments equilibrium}$$

$$F^s > F^d \rightarrow \text{Balance-of-payments surplus}$$

Balance-of-payments
disequilibrium



$$F^s < F^d \rightarrow \text{Balance-of-payments deficit}$$

Hong Kong Balance of Payments. 2012-2018

HK\$ million

標準組成部分	Standard component	2012	2013	2014	2015	2016	2017	2018
經常賬戶⁽¹⁾	Current account⁽¹⁾	32,151	32,475	31,453	79,553	98,664	123,900	113,745
貸方	Credit	5,495,239	5,930,355	6,079,388	5,982,280	5,941,701	6,460,687	6,996,009
借方	Debit	-5,463,088	-5,897,880	-6,047,936	-5,902,727	-5,843,037	-6,336,787	-6,882,264
貨物	Goods	-146,729	-216,592	-250,931	-177,302	-129,693	-178,532	-254,305
貸方	Credit	3,632,957	3,926,059	3,986,769	3,889,225	3,892,886	4,212,774	4,461,275
借方	Debit	-3,779,686	-4,142,651	-4,237,700	-4,066,527	-4,022,579	-4,391,306	-4,715,580
服務	Services	169,760	229,424	255,563	234,603	186,733	207,431	256,047
貸方	Credit	764,026	812,640	829,085	808,948	764,839	812,937	891,367
借方	Debit	-594,266	-583,216	-573,522	-574,345	-578,106	-605,506	-635,320
初次收入	Primary income	29,455	40,519	46,607	44,376	62,593	115,552	134,815
貸方	Credit	1,091,235	1,183,568	1,254,733	1,274,457	1,273,534	1,422,665	1,630,576
借方	Debit	-1,061,779	-1,143,049	-1,208,126	-1,230,080	-1,210,941	-1,307,113	-1,495,761
二次收入	Secondary income	-20,336	-20,876	-19,786	-22,124	-20,969	-20,551	-22,813
貸方	Credit	7,021	8,088	8,802	9,650	10,442	12,311	12,791
借方	Debit	-27,357	-28,964	-28,588	-31,775	-31,411	-32,862	-35,603
資本及金融賬戶⁽¹⁾	Capital and financial account⁽¹⁾	-67,664	-86,308	-73,785	-128,642	-101,104	-76,488	-175,081
資本賬戶	Capital account	-1,433	-1,609	-748	-216	-374	-645	-1,574
貸方	Credit	1	4	3	256	3	4	4
借方	Debit	-1,434	-1,613	-750	-472	-377	-649	-1,578
金融賬戶	Financial account	-66,231	-84,699	-73,037	-128,426	-100,730	-75,843	-173,507
非儲備性質的 金融資產 ⁽²⁾	Financial non-reserve assets ⁽²⁾	122,658	-26,810	66,052	153,570	-91,874	174,666	-165,948
直接投資	Direct investment	-102,623	-50,250	-85,718	794,800	447,758	186,887	172,795
資產	Assets	-683,484	-646,336	-1,092,502	-608,769	-586,386	-792,730	-587,673
負債	Liabilities	580,861	596,086	1,006,784	1,403,568	1,034,144	979,617	760,467
證券投資	Portfolio investment	-31,592	-386,077	-64,384	-970,938	-469,591	264,159	-616,428
資產	Assets	-310,949	-514,650	-276,143	-661,239	-530,219	-55,297	-760,277
負債	Liabilities	279,358	128,573	211,759	-309,700	60,628	319,456	143,849
金融衍生工具	Financial derivatives	15,208	54,661	118,359	99,178	36,327	61,763	33,202
資產	Assets	308,202	424,894	449,093	564,185	738,192	646,529	615,605
負債	Liabilities	-292,994	-370,232	-330,734	-465,006	-701,866	-584,766	-582,403
其他投資	Other investment	241,665	354,856	97,795	230,531	-106,368	-338,144	244,483
資產	Assets	-132,337	-639,171	-925,077	285,040	-322,076	-1,501,324	-568,893
負債	Liabilities	374,001	994,027	1,022,872	-54,510	215,708	1,163,180	813,376
儲備資產 ⁽²⁾	Reserve assets ⁽²⁾	-188,889	-57,890	-139,089	-281,996	-8,856	-250,509	-7,559
淨誤差及遺漏⁽³⁾	Net errors and omissions⁽³⁾	35,513	53,833	42,332	49,089	2,440	-47,413	61,336
整體的國際收支	Overall Balance of Payments	188,889	57,890	139,089	281,996	8,856	250,509	7,559
		(盈餘)	(盈餘)	(盈餘)	(盈餘)	(盈餘)	(盈餘)	(盈餘)
		(in surplus)	(in surplus)	(in surplus)	(in surplus)	(in surplus)	(in surplus)	(in surplus)

Source: Balance of Payments, International Investment Position and External Debt Statistics of Hong Kong. Third Quarter 2019, C&S

Current account balance of selected countries (Billions of U.S. dollars)

Country	2002	2011	2017	2018	2019*	2020*
Australia	-16.187	-46.582	-35.568	-29.643	-3.48	-23.893
Canada	12.509	-49.614	-46.327	-45.162	-32.477	-30.187
China, People's Republic of	35.422	136.097	195.117	49.092	147.71	138.511
Hong Kong SAR	13.129	13.839	15.854	15.569	20.689	19.491
Japan	109.125	129.834	201.961	175.26	172.113	180.46
Korea, Republic of	4.066	16.638	75.231	76.409	52.797	46.409
Macao SAR	2.352	14.999	16.731	19.181	19.696	19.525
Singapore	13.767	62.069	55.405	65.071	60.033	61.529
Taiwan Province of China	24.333	37.878	83.518	71.989	67.024	64.934
United Kingdom	-40.248	-51.618	-88.059	-109.059	-94.72	-99.552
United States	-450.794	-445.663	-439.646	-490.978	-539.454	-569.107
World	-119.412	337.965	424.073	364.191	290.548	117.381

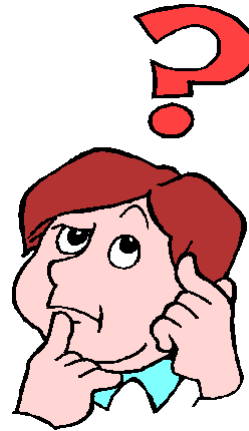
* IMF estimates

Markets for Interest Rate Instruments

Transformation of currency denomination in business loans

Hong Kong

HKD
Bank lending
rate = 8%



Japan

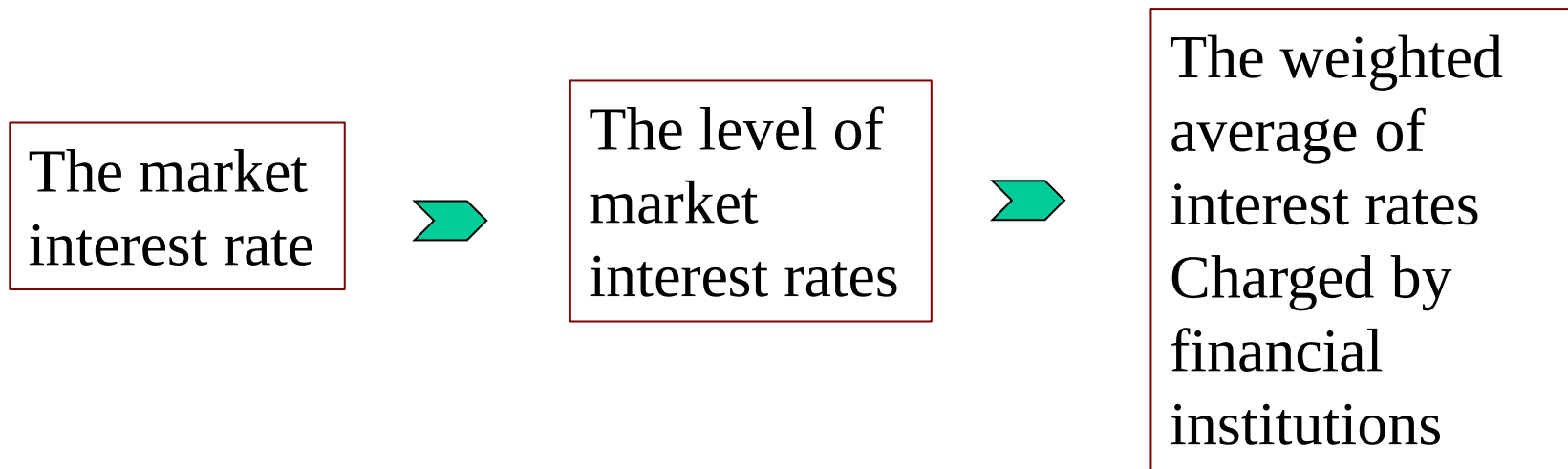
Japanese yen
Bank lending
rate = 5%

- The spread between buying and selling prices
- Service charge
- Transaction cost (service charge or commission)
- Exchange rate Expectations
- Exchange Risk
- Net profit margin

Interest Rate Instruments

Deposits and loans	Short term (up to and including 1 year) Interbank deposits and loans US Federal funds Bank time deposit or transferable deposits Bank business loans
	Long term (over 1 year) Bank mortgage loans Bank long term fixed deposits
Debt securities	Short term (up to and including 1 year) Examples: Treasury bills and commercial papers
	Long term (over 1 year) Examples: Bonds sold by issuing companies, governments and others outside their own countries

The market interest rate



There are different rate of interest applied to different individuals/firms subject different terms to maturity, risk premium (credit risk, country risk, industry risk), and the monetary authority's interest rate target.

BIS Policy rates

- The data set on the monetary policy rates of 38 central banks.
- This is the only data set containing both current and historical data for a large number of countries.
- Central banks informed the BIS on which interest rates to be considered as policy
- The data set presents the target rate, or when this is not available the traded rate, for the central bank's main policy instrument. Several central banks implement their monetary policy based on more than one interest rate.

Sources: <https://www.bis.org/statistics/cbpol.htm>

BIS Policy rates for selected countries

Central bank policy rates, Monthly, -End of period

Per Cent Per Year

Period	China	UK	HK	Japan	USA	Euro Area
31.12.2009	5.31	0.5	0.5	0.1	0.125	1
31.12.2010	5.81	0.5	0.5	0.05	0.125	1
31.12.2011	6.56	0.5	0.5	0.05	0.125	1
31.12.2012	6	0.5	0.5	0.05	0.125	0.75
31.12.2013	6	0.5	0.5	0	0.125	0.25
31.12.2014	5.6	0.5	0.5	0	0.125	0.05
31.12.2015	4.35	0.5	0.75	0	0.375	0.05
31.12.2016	4.35	0.25	1	-0.1	0.625	0
31.12.2017	4.35	0.5	1.75	-0.1	1.375	0
31.12.2018	4.35	0.75	2.75	-0.1	2.375	0
30.09.2019	4.35	0.75	2.25	-0.1	1.875	0

The Foreign Exchange Market

Bilateral Exchange Rates

Exchange rates are expressed as the price of one currency in terms of another.

Quoted currency = numerator

Base currency = denominator

(HKD/USD) = HKD needed to buy one U.S. dollar

HKD is quoted currency, dollar is base currency

$$\text{Direct quote} = \frac{\text{Quoted currency}}{\text{Base currency}} = \frac{7.8}{1} = 7.8$$

$$\text{Indirect quote} = \frac{1}{\text{Direct quote}} = \frac{1}{7.8} = 0.1282$$

Exchange Rate Index

- It is designed to indicate a country's overall external value against a basket of selected currencies.
- The effective exchange rate index ([EERI](#)) for the HKD is an index which measures movements in the weighted average of the exchange rate of the HKD against the currencies of major trading partners of Hong Kong. It serves as an indicator for measuring the overall strength of the HKD relative to selected currencies. A new series of EERI, which includes 15 currencies and is based on January 2010 as 100, has replaced the old series as from 3 January 2012.

Currency Weights of the New Series of Effective Exchange Rate Index

		(%)		
貨幣	Currency	貿易總值加權 Trade-weighted	進口貨值加權 Import-weighted	整體出口貨值加權 Export-weighted
人民幣	Chinese Renminbi	52.45	48.52	56.93
美元	U.S. Dollar	8.68	5.51	12.28
歐元	Euro	7.49	6.06	9.11
日圓	Japanese Yen	7.22	9.43	4.71
新台幣	New Taiwan Dollar	4.86	6.97	2.45
新加坡元	Singapore Dollar	4.67	7.16	1.86
南韓圓	Korean Won	3.09	4.11	1.93
印度盧比	Indian Rupee	2.34	2.17	2.52
馬來西亞元	Malaysian Ringgit	1.83	2.65	0.89
英鎊	Pound Sterling	1.82	1.30	2.40
泰銖	Thai Baht	1.79	2.32	1.19
瑞士法郎	Swiss Franc	1.18	1.63	0.68
澳元	Australian Dollar	0.98	0.54	1.48
菲律賓披索	Philippine Peso	0.97	1.26	0.65
加拿大元	Canadian Dollar	0.63	0.37	0.92
總計	Total	100.00	100.00	100.00

C&S (2011), Hong Kong *Monthly Digest of Statistics*, December 2011, Feature Article: New Series of Effective Exchange Rate Index for the Hong Kong Dollar. pp. 5

(每單位外幣兌換港元)
(HK Dollar per unit of foreign currency)

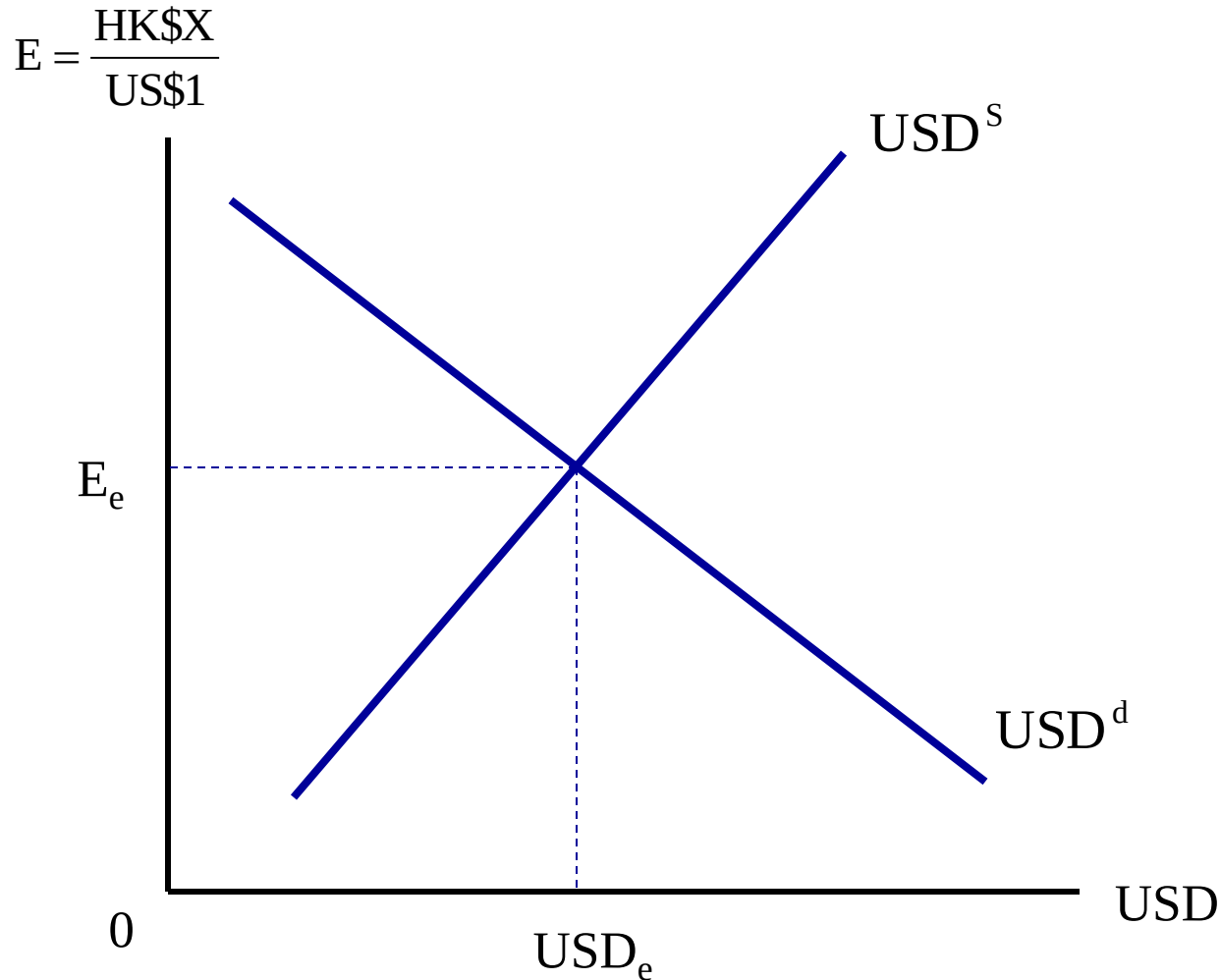
年	月	澳元 Australian Dollar	加拿大元 Canadian Dollar	印度盧比 Indian Rupee	日圓 Japanese Yen	南韓圓 Korean Won	馬來西亞元 Malaysian Ringgit	新台幣 New Taiwan Dollar	菲律賓 披索 Philippine Peso	英鎊 Pound Sterling	新加坡元 Singapore Dollar
Year	Month										
2017		5.98	6.01	0.120	0.0695	0.0069	1.81	0.262	0.157	10.05	5.65
2018		5.86	6.05	0.115	0.0709	0.0071	1.94	0.263	0.152	10.46	5.81
2019		5.44	5.91	0.111	0.0719	0.0067	1.89	0.256	0.153	10.00	5.74
2018	10	5.56	6.02	0.107	0.0695	0.0069	1.88	0.256	0.148	10.20	5.68
	11	5.67	5.94	0.109	0.0691	0.0070	1.87	0.256	0.147	10.10	5.69
	12	5.61	5.83	0.111	0.0696	0.0070	1.87	0.256	0.149	9.90	5.71
2019	1	5.61	5.89	0.111	0.0720	0.0070	1.90	0.258	0.152	10.11	5.78
	2	5.60	5.94	0.110	0.0711	0.0070	1.92	0.258	0.152	10.21	5.80
	3	5.56	5.88	0.113	0.0706	0.0069	1.92	0.258	0.152	10.34	5.80
	4	5.58	5.86	0.113	0.0703	0.0069	1.91	0.257	0.152	10.22	5.79
	5	5.45	5.83	0.112	0.0713	0.0066	1.88	0.255	0.152	10.08	5.73
	6	5.43	5.89	0.113	0.0724	0.0067	1.88	0.254	0.153	9.92	5.74
	7	5.46	5.96	0.114	0.0722	0.0066	1.89	0.256	0.157	9.74	5.74
	8	5.31	5.91	0.110	0.0738	0.0065	1.87	0.252	0.157	9.52	5.66
	9	5.33	5.92	0.110	0.0729	0.0066	1.87	0.257	0.153	9.68	5.68
	10	5.33	5.95	0.110	0.0725	0.0066	1.87	0.258	0.153	9.93	5.73
	11	5.35	5.92	0.110	0.0719	0.0067	1.88	0.258	0.153	10.09	5.75
	12	5.37	5.92	0.110	0.0715	0.0066	1.88	0.258	0.153	10.24	5.75

(每單位外幣兌換港元) --- 續 (HK Dollar per unit of foreign currency) --- cont'd								港匯指數 (2010年1月=100) Effective Exchange Rate Indices for HK Dollar (January 2010 = 100)		
年 Year	月 Month	瑞士法郎 Swiss Franc	泰銖 Thai Baht	美元 U.S. Dollar	歐元 Euro	人民幣 Chinese Renminbi	特別 提款權 Special Drawing Right	貿易總值 (進口及整體 出口)加權 Trade (import and export) - weighted	進口貨值 加權 Import- weighted	整體出口 貨值加權 Export- weighted
2017		7.92	0.230	7.794	8.82	1.1552	10.80958	104.2	104.2	104.3
2018		8.01	0.243	7.839	9.25	1.1855	11.10253	101.8	101.7	101.9
2019		7.89	0.253	7.836	8.77	1.1332	10.82677	105.2	104.9	105.5
2018	10	7.89	0.239	7.839	9.00	1.1311	10.90311	105.5	105.4	105.6
	11	7.82	0.238	7.831	8.90	1.1291	10.84225	105.7	105.6	105.8
	12	7.88	0.239	7.821	8.90	1.1348	10.83396	105.4	105.2	105.5
2019	1	7.93	0.247	7.843	8.96	1.1540	10.93346	103.8	103.6	104.1
	2	7.84	0.251	7.849	8.90	1.1632	10.92565	103.5	103.3	103.7
	3	7.85	0.248	7.850	8.88	1.1685	10.92249	103.3	103.1	103.4
	4	7.79	0.247	7.845	8.82	1.1674	10.88313	103.5	103.4	103.7
	5	7.76	0.247	7.849	8.78	1.1418	10.84481	105.0	104.8	105.1
	6	7.92	0.252	7.826	8.84	1.1327	10.84253	105.2	104.9	105.5
	7	7.91	0.254	7.811	8.76	1.1349	10.78918	105.1	104.8	105.5
	8	8.01	0.255	7.841	8.72	1.1077	10.76444	106.7	106.3	107.1
	9	7.91	0.257	7.837	8.63	1.1014	10.72352	107.0	106.6	107.6
	10	7.90	0.259	7.843	8.67	1.1063	10.76052	106.6	106.2	107.1
	11	7.89	0.259	7.830	8.66	1.1153	10.76742	106.2	105.8	106.6
	12	7.94	0.259	7.807	8.67	1.1131	10.76499	106.3	105.9	106.8

Source: Hong Kong Monthly Digest of Statistics. January 2020, C&S

A theoretical model for exchange rate determination

The US Foreign Exchange Market in Hong Kong



Supply of the domestic currency

- A foreign currency is offered in exchange for the domestic currency because holders of the foreign currency wish to make payments in the domestic currency.
- It is derived from the credit items in the BP.
- The supply of curve is slopping upwards from left to right.

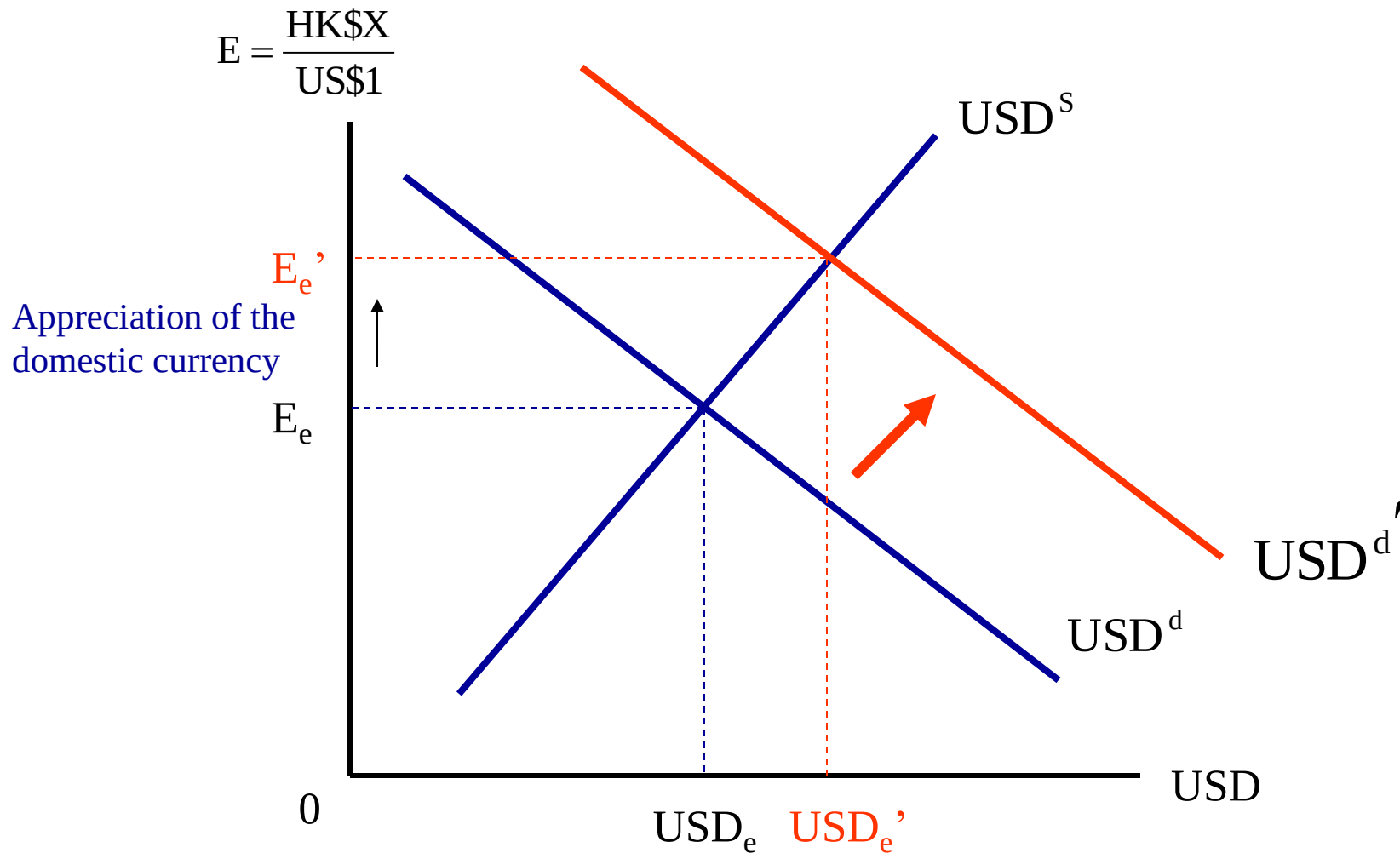
$$\text{USD}^S \uparrow = f(E \uparrow; X \uparrow, \text{Capital Inflow} \uparrow, \text{FX Reserves} \downarrow)$$

Demand for the domestic currency

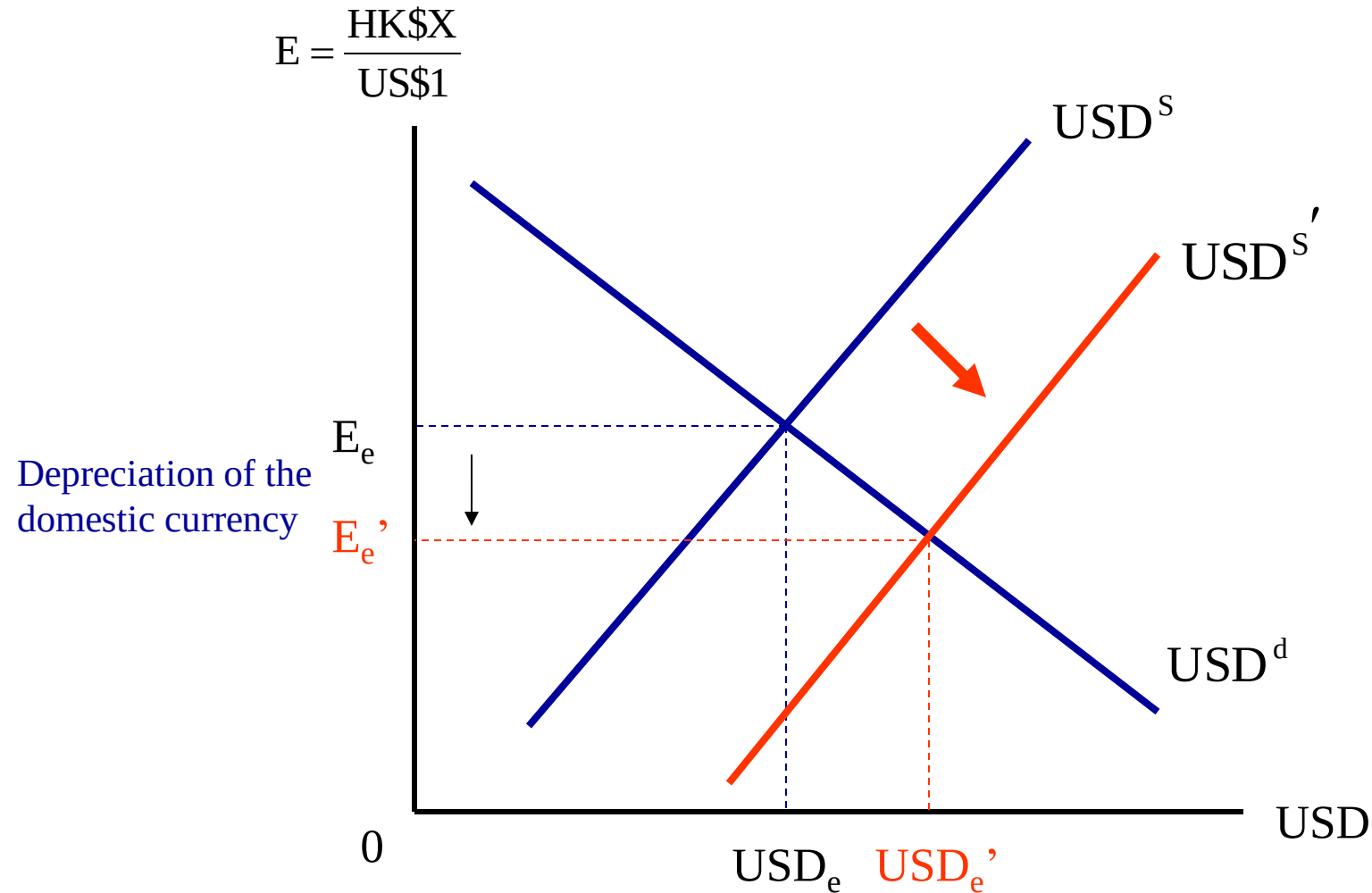
- It arises because holders of the domestic currency wish to make payments in a foreign currency.
- It originates in the debit items in the BP.
- slopes downwards from left to right.

$$\text{USD}^d \uparrow = f(E \downarrow; M \uparrow, \text{Capital Outflow} \uparrow, \text{FX Reserves} \uparrow)$$

Comparative static analysis (1): An increase in imports



Comparative static analysis (2): An increase in FDI inflow



Big Mac PPP (Source:The Economist, 24/04/2003)

	Local currency price (2)	USD price (3)	USD PPP (4)	Actual exchange rate (5)	Over (+) or under (-) evaluation (%)
<i>United States</i>	\$ 2.71	2.71			
<i>UK</i>	£ 1.99	3.14	1.36*	1.58	+ 16
<i>Eurozone</i>	€ 2.71	2.97	1.00*	1.10	+ 10
<i>Argentina</i>	Peso 4.10	1.43	1.51	2.88	- 47
<i>Poland</i>	Zl 6.3	1.62	2.32	3.89	- 40
<i>Thailand</i>	Baht 59.0	1.38	21.8	42.7	- 49
<i>China</i>	Yuan 9.9	1.20	3.65	8.28	- 56
<i>Japan</i>	Yen 262	2.19	96.7	120	- 19

Note : except for the £ et the euro (€) whose exchange rate represents their value in dollars (indicated by a star *), column 5 gives the dollar value of the local currency. Column 3 results from dividing (2) by (5). Column 4 (dollar PPP) results from dividing (2) (local currency price of the Big Mac) by 2,54 (US price of the Big Mac) (except for the UK and the euro zone, where the reverse ratio is taken). Source : <http://www.economist.com>

Global Financial Stability Overview

Source:

International Monetary Fund. 2019. Global Financial Stability Report: Lower for Longer. Washington, DC, October.

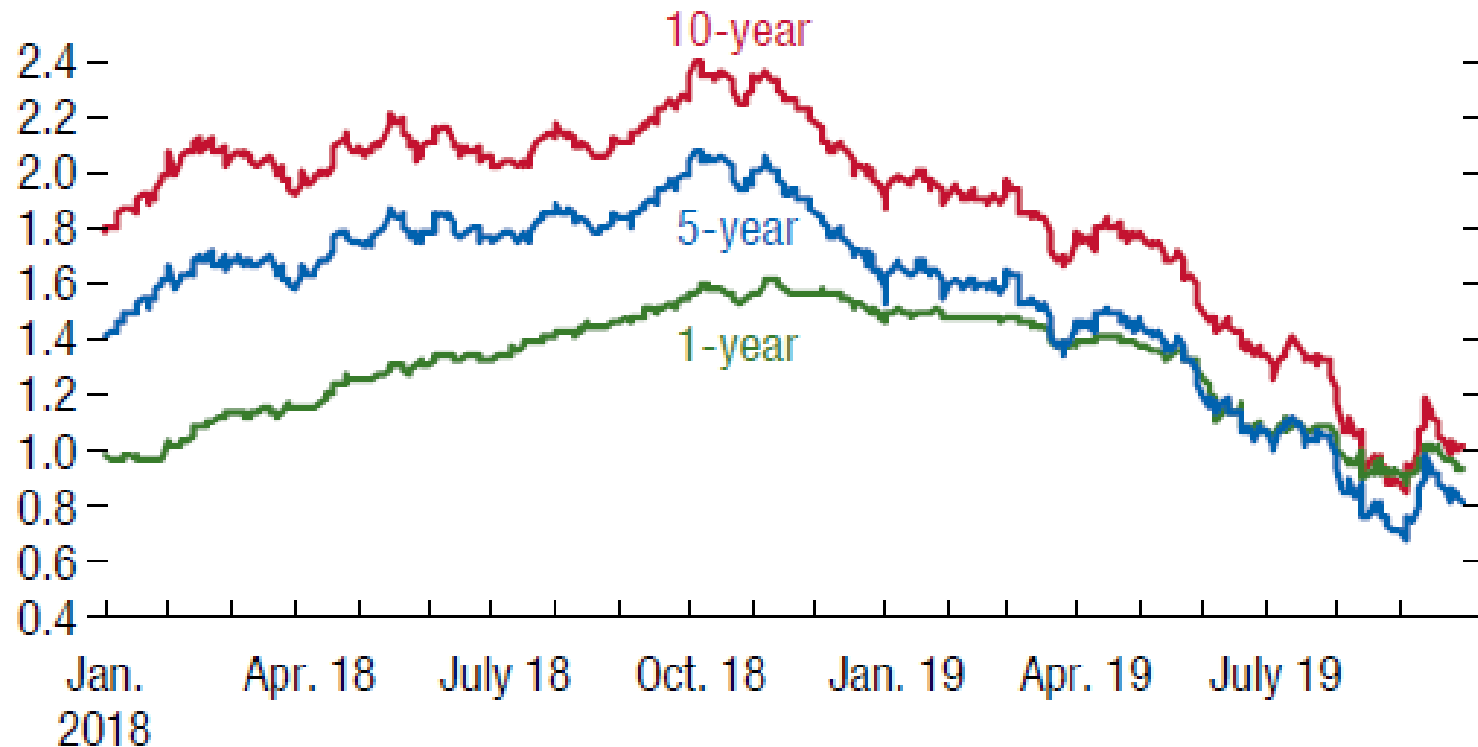
The Global Financial Stability Report (GFSR) assesses key vulnerabilities in the global financial system. In normal times, the report seeks to play a role in preventing crises by highlighting policies that may mitigate systemic risks, thereby contributing to global financial stability and the sustained economic growth of the IMF's member countries.

Highlights

- Over the past six months (from March to September 2019) , the twists and turns of trade disputes have continued to buffet financial markets, business sentiment has weakened further, and concerns about downside risks to the global economy have increased.
- The shift toward a more dovish monetary policy stance across the globe, which has been accompanied by a pronounced decline of longer-term yields, helped mitigate such concerns.
- Market pricing now suggests that rates will remain lower for longer than anticipated at the beginning of the year, and about \$15 trillion of outstanding debt features negative yields.

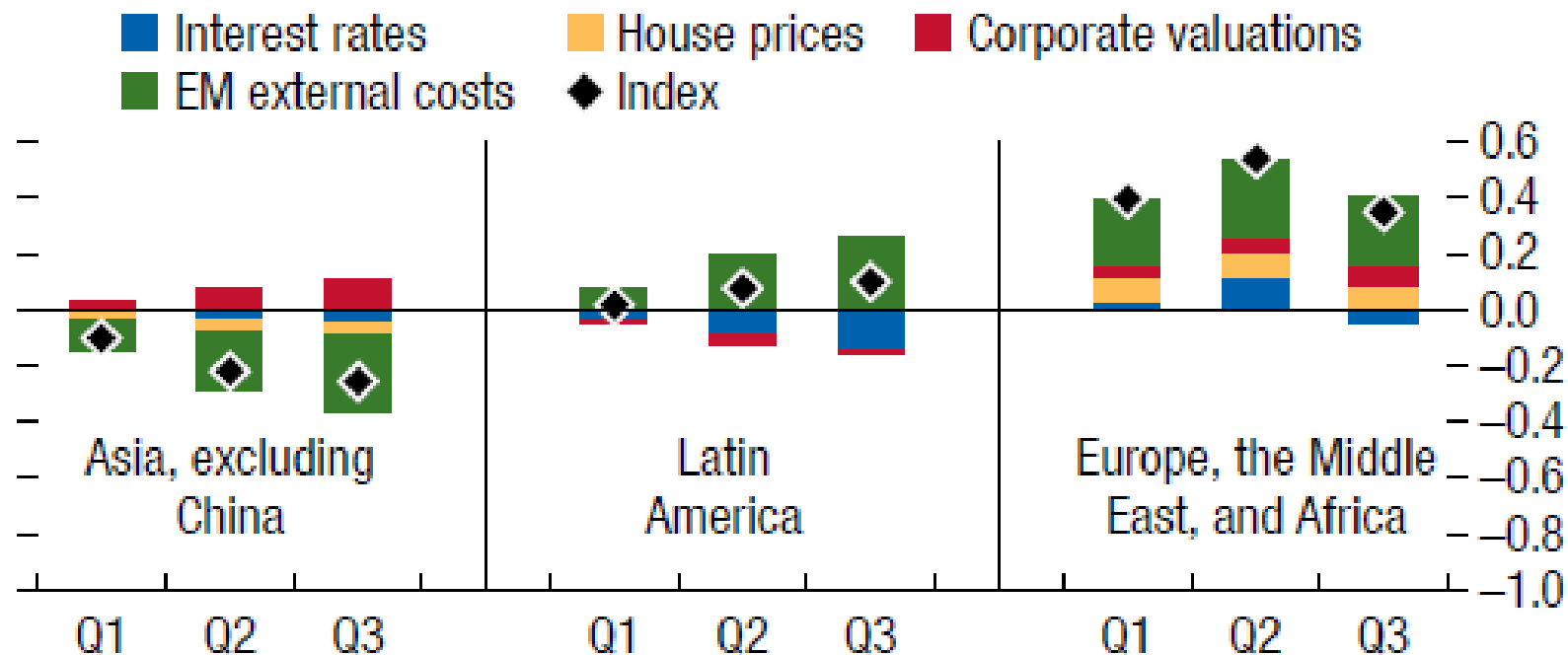
- Lower government bond yields have contributed to easing of global financial conditions compared with six months ago, particularly in the United States and the euro area. While easier financial conditions have supported economic growth and helped contain downside risks to the outlook in the near term, they have also encouraged more financial risk-taking and a further buildup of financial vulnerabilities, putting medium-term growth at risk.
- Vulnerabilities are also present in the global US dollar funding markets. In this report, we take a deep dive into the funding profile of US dollar-denominated assets of non-US banks. While post crisis financial regulation has improved the resilience of banking sectors in many dimensions, US dollar funding fragilities amplify adverse shocks and create spillovers to countries that borrow in US dollars from foreign non-US banks, thus becoming a source of vulnerability for the global financial system.
- Of course, the main drivers of global downside risks have been trade tensions and policy uncertainties. Thus, the main priorities for policymakers are to resolve trade disputes, to provide clarity of economic policies, and to develop and deploy macro-prudential tools to address the rise of financial vulnerabilities.

Advanced Economy Government Bond Yields (Percent)



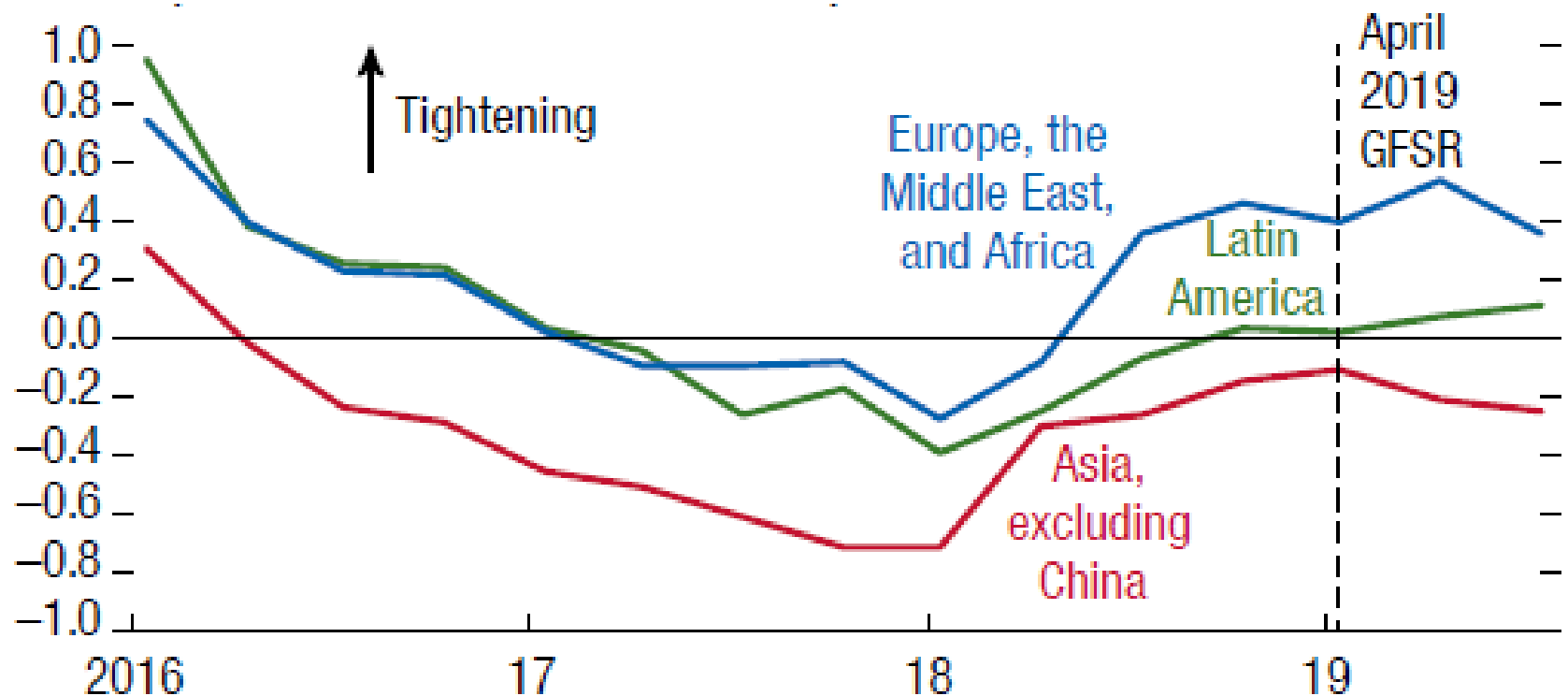
Bond yields have fallen significantly in advanced economies.

Key Drivers of Emerging Market Regional Financial Conditions, 2019 (Standard deviations from mean)



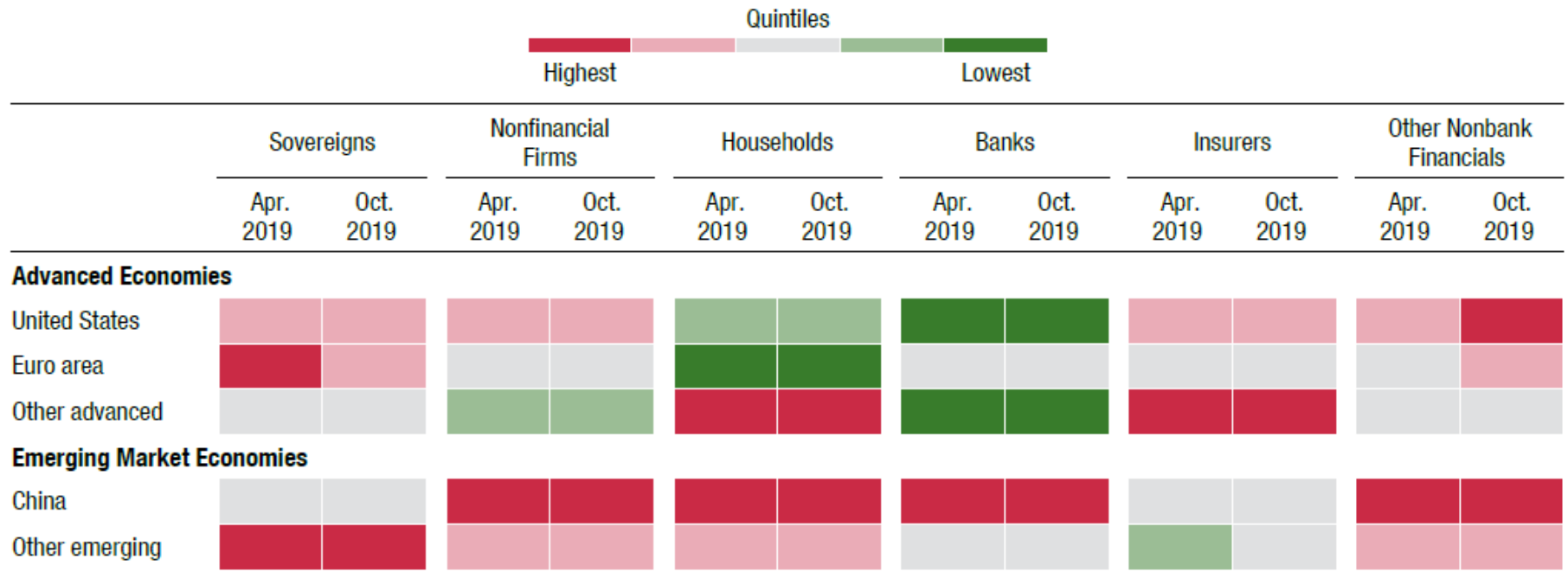
They have varied across regions.

Emerging Market Regional Financial Conditions (Standard deviations from mean)



Financial conditions have eased slightly in emerging markets.

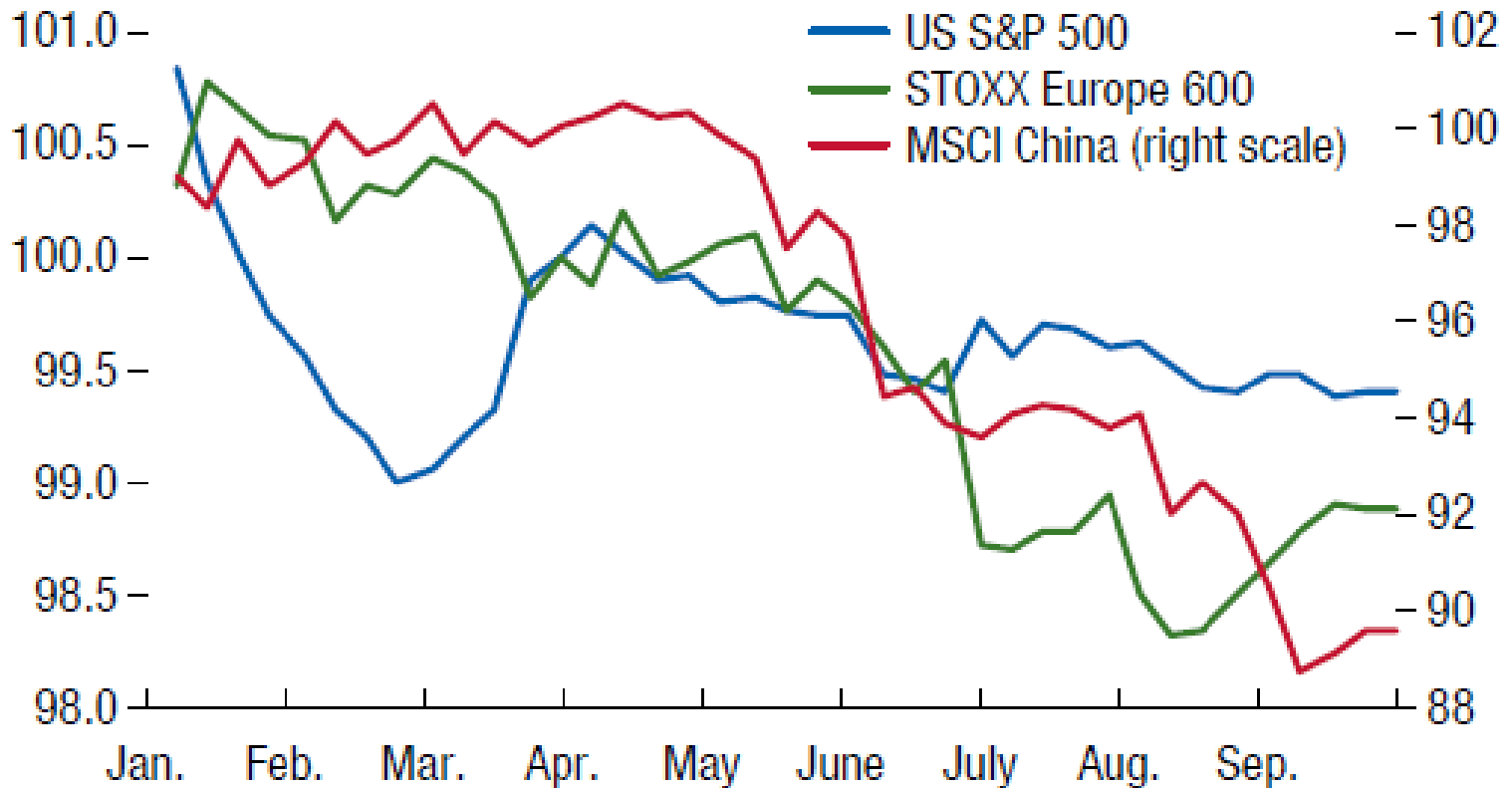
Financial Vulnerabilities by Sector and Region



Vulnerabilities are elevated in several economies and have increased among other nonbank financial entities in advanced economies.

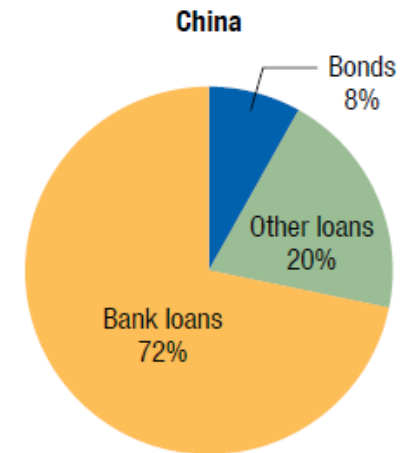
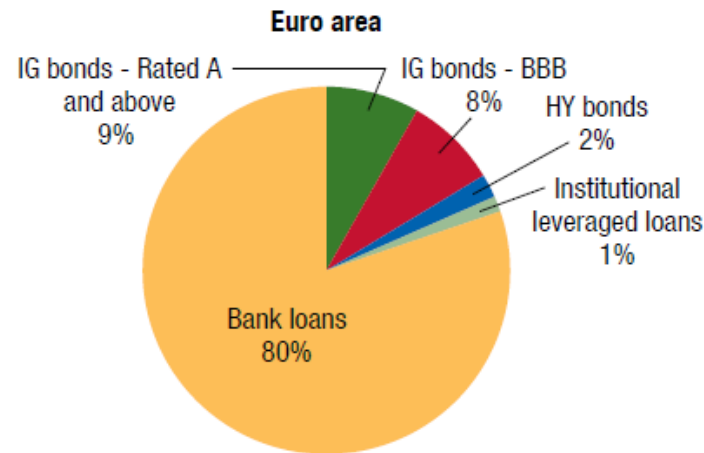
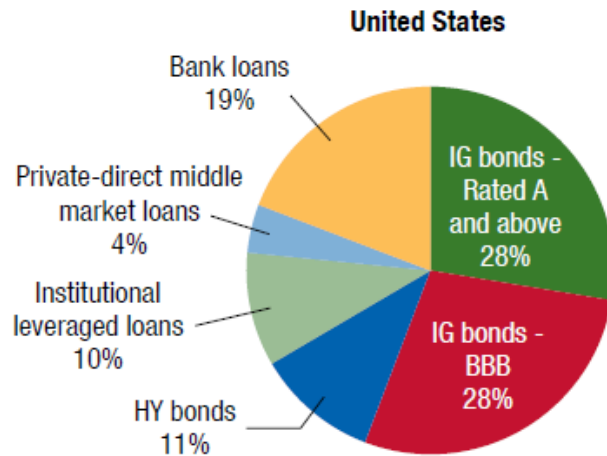
Global Large Firms: 2019 Sales

(Index, blended actual and forecast sales, April 1, 2019 = 100)



Slower global growth and escalating trade disputes have curbed expected sales growth, especially in China.

Composition of Corporate Credit as of 2018 (Percent)



Capital market instruments have gained in prominence in the United States, whereas bank lending remains prevalent in the euro area and China.

謝謝
Thanks You