

Topics for Today

1.) Dollarization

2.) Currency Boards

Re-Cap of Mundell's OCA Criteria

- 1.) Extent of Bilateral Trade
- 2.) Correlation of Business Cycles
- 3.) Degree of Factor Mobility
- 4.) Degree of "fiscal federalism" (risk-sharing)

Other Considerations:

- 1.) Degree of wage + price flexibility
- 2.) Credibility of existing Central Bank
- 3.) Ex ante or Ex post satisfaction of the criteria?

Levels of Commitment to Fixed Ex. Rates

From least to most:

- 1.) A unilateral peg - virtually no commitment
- 2.) Currency Board - unilateral changes in national laws
- 3.) Dollarization - May require strict laws to reverse. Depends on the nature + extent of dollarization.
- 4.) Monetary Union - Very difficult to reverse. Part of a wider process of integration. Policy spillovers. Would need to be negotiated.

Last time we discussed Monetary Unions, which are multilateral.

Monetary Unions are therefore cooperative, and rely on a significant degree of political integration

There are also unilateral options for credibly fixing an exchange rate

I. DOLLARIZATION

On the surface, dollarization is a lot like a MU (i.e., 2 countries use the same currency). However, there are a couple of important differences:

- 1.) It requires no international cooperation, One country just decides to start using another country's currency.
- 2.) As a result, dollarization is very one-sided. One country retains its own monetary policy, (e.g., the U.S.), while another relinquishes it.

There are different kinds of "dollarization".

(Of course, the foreign currency doesn't have to be the U.S. \$. Historically, there are examples of countries using the British Pound, French Franc, etc).

1.) Official - The govt. formally announces it is switching to \$, and the old currency goes out of circulation

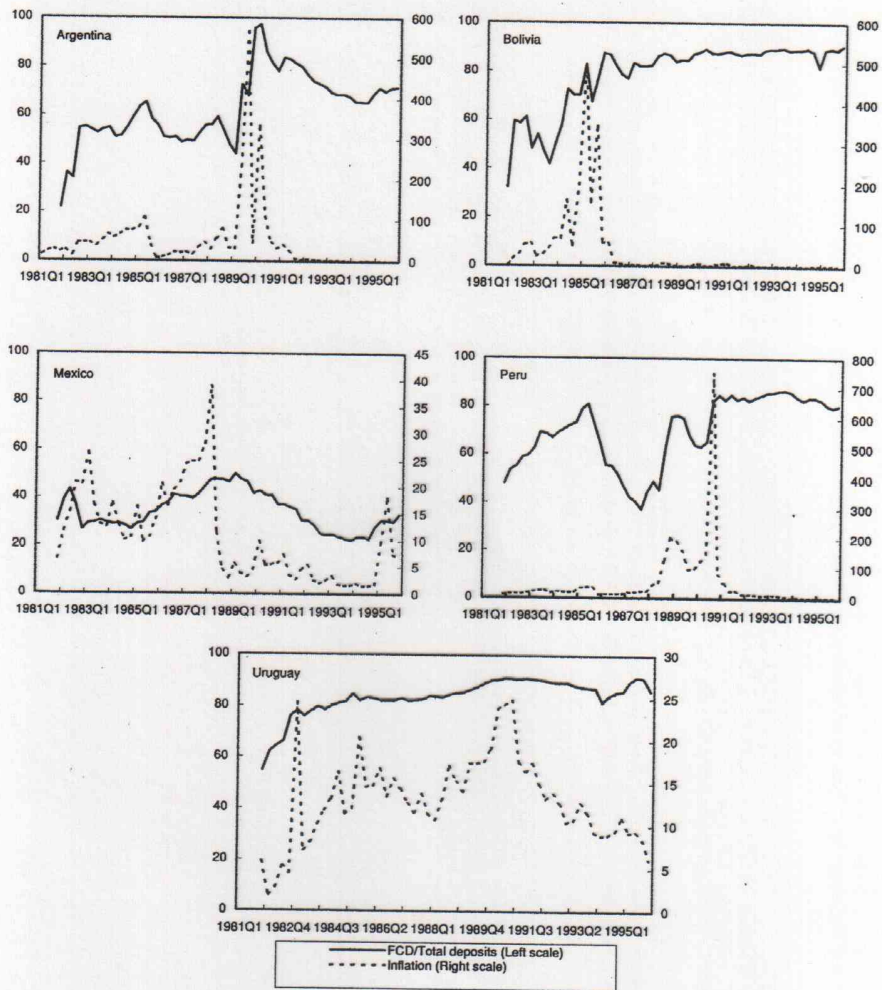
Examples: Panama (1904), Ecuador (2000), El Salvador (2001), Many Small Island Economies (Guam, Micronesia, Samoa, Puerto Rico, etc),

2.) (Semi) Official - \$ becomes legal tender, but original currency remains

Examples: Guatemala, Honduras, Belize.

3.) Spontaneous/Unofficial - Residents just decide to start using foreign currency. \$ not legal tender

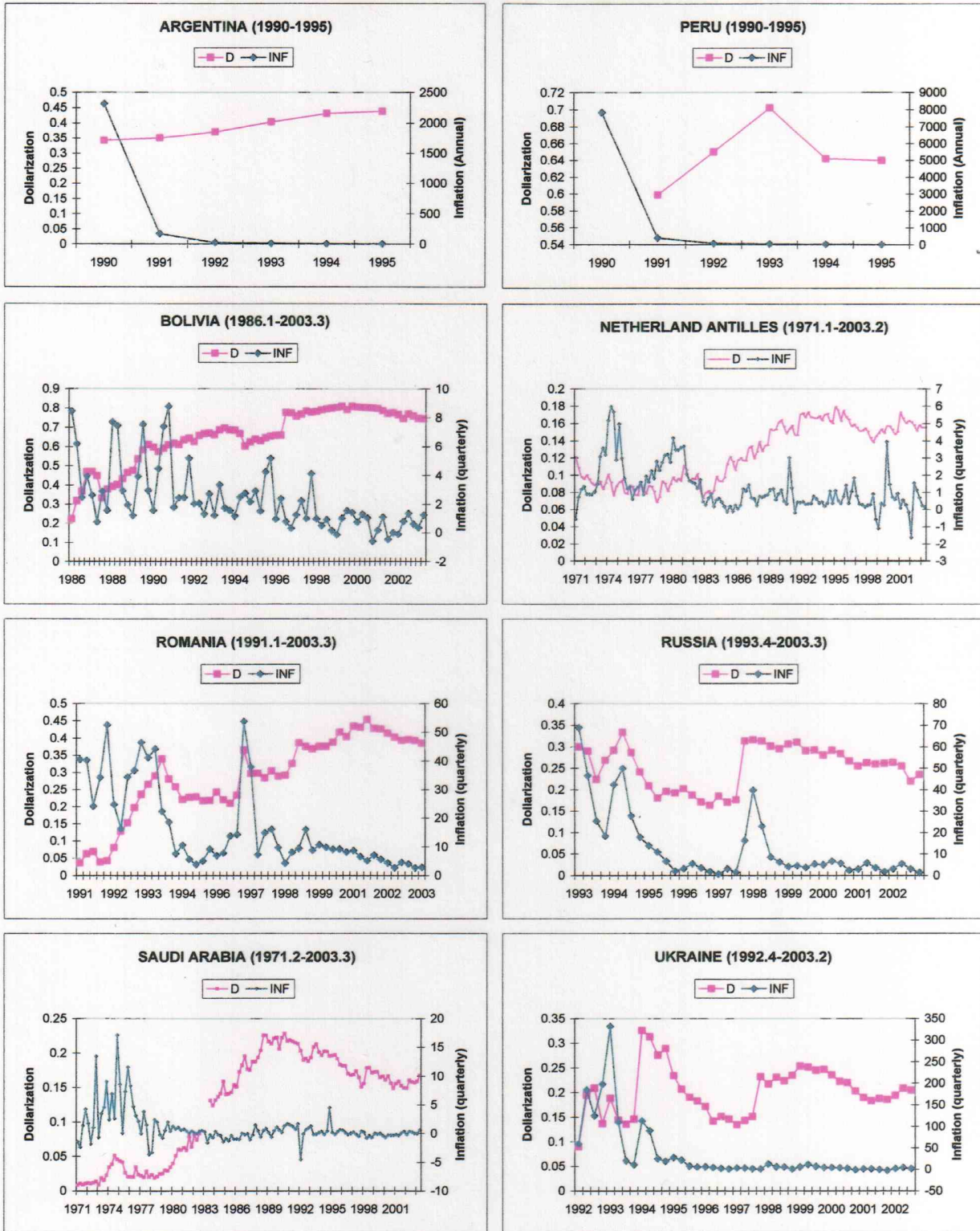
Examples: Latin America, Former Soviet Economies



Sources: IMF, International Financial Statistics; and Central Bank Bulletins (various issues).

Fig. 1. Dollarization ratios and inflation in selected Latin American economies (in percent).

Figure 1: Dollarization Ratio and Inflation Rates, Annual or Quarterly Data*



* Annual or Quarterly data depending on availability. Data on dollarization ratios (foreign currency deposits / M2) for Argentina and Peru are from Balino et al. (1999); all other data is from the IMF's IFS database.

Table 1

Dollarization in Selected FSU Countries in 2001

Country	CDI	DI	Annual Inflation
Latvia	67.5	30.8	2.5 %
Lithuania	34.7	32.9	1.3 %
Russia	73.5	24.5	21.6 %
Ukraine	37.8	19.4	6.1 %
Armenia	68.1	50.3	3.4 %
Azerbaijan	82.3	48.8	1.5 %
Georgia	80.2	44.9	4.7 %
Kazakhstan	89.7	47.5	8.4 %
Kyrgyz Rep.	52.3	25.2	7.0 %
Turkmenistan	54.4	39.9	11.4 %

CDI - Comprehensive Dollarization Index =

= (foreign currency+foreign currency bank deposits)/(M2+foreign currency in circulation)*100 %

DI - Dollarization Index = Foreign currency bank deposits / M2 * 100 %

Source: Feige (2003) and Havrylyshyn and Beedies (2003).

Costs of Dollarization

1.) Lost Seignorage . About ~~2%~~ 3-5% of GDP

2.) Inability of Central Bank to act as Lender of Last Resort
Not likely significant.

3.) Loss of Independent Monetary Policy
- Net loss depends on your weighting of inflation + output stability

Dollarization \Rightarrow inflation \downarrow

\Rightarrow output stability \downarrow

Seignorage

Seignorage = Revenue from printing money

$$S_t = \frac{M_t - M_{t-1}}{P_t} = \frac{M_t - M_{t-1}}{M_{t-1}} \cdot \frac{M_{t-1}}{P_t}$$

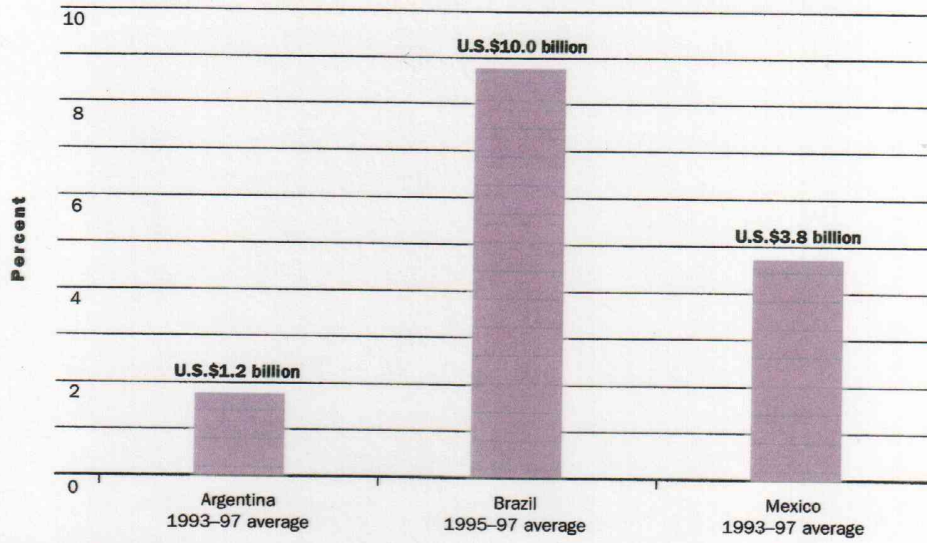
$$\approx \underbrace{g_m}_{\substack{\text{money} \\ \text{growth} \\ \text{rate}}} \cdot \frac{M_{t-1}}{P_t}$$

$$\approx \underbrace{\pi}_{\substack{\text{tax} \\ \text{rate}}} \cdot \underbrace{\frac{M}{P}}_{\substack{\text{tax} \\ \text{base}}}$$

Actually, $\pi = g_m - g_y$

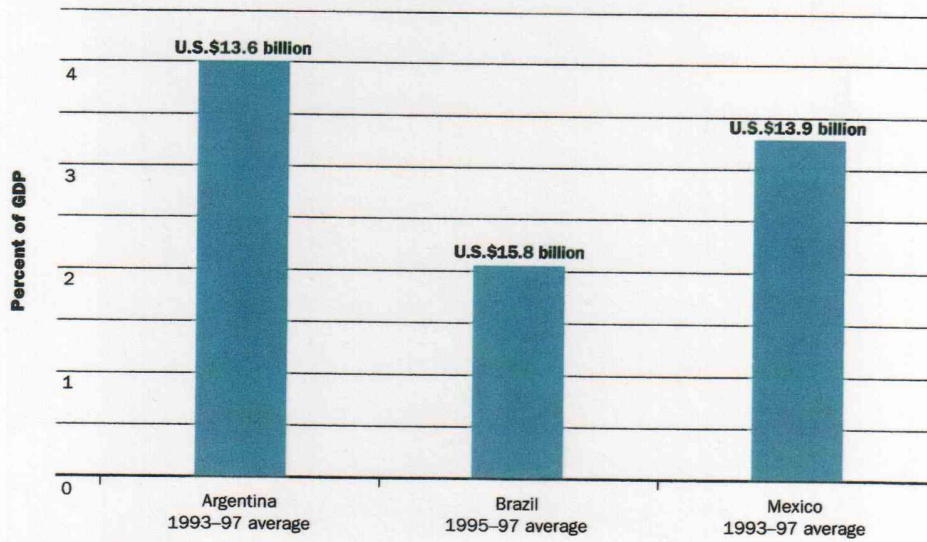
$$\text{So } S \approx (\pi + g_y) \cdot \frac{M}{P}$$

CHART 2 Flow of Revenue from Seigniorage as a Percentage of Total Government Revenue



Source: International Financial Statistics

CHART 3 Cost of Replacing Domestic Currency in Circulation with U.S. Dollars



Source: International Financial Statistics

Macroeconomic Performance + Ex. Rate Regimes

Developing Countries 1970s - 1990s

% Deviations from Average

	Pegged	Intermediate	Floating
Output Growth Level	0.0	0.70	0.50
Volatility	0.08	-0.80	-0.52
Employment Vol.	0.05	0.01	-0.32
Inflation Level	-2.90	-0.10	3.80
Volatility	-1.74	0.53	1.67

Source: IMF

Punchline: Floating rates produce faster + more stable growth, but higher inflation

Benefits of Dollarization

1.) Credibility (Dollarization is "irreversible")
- Inflation bias without credibility

2.) Lower Interest Rates?
(Inflation/Devaluation risk vs. Default Risk)

⇒ More investment / higher growth

II. CURRENCY BOARDS

Historically, Currency Boards were quite common, especially among former British colonies. However, with decolonialization after WWII, most CBs disappeared. The major contemporary examples are Hong Kong, Argentina (1991-2001), and the Baltic Republics.

A CB issues domestic currency that is convertible into a foreign anchor (or reserve) currency at a fixed rate of exchange.

The fixed rate is enforced by 100% foreign reserve backing. That is, a CB is not allowed to purchase domestic govt. bonds, or to extend loans to domestic financial institutions.

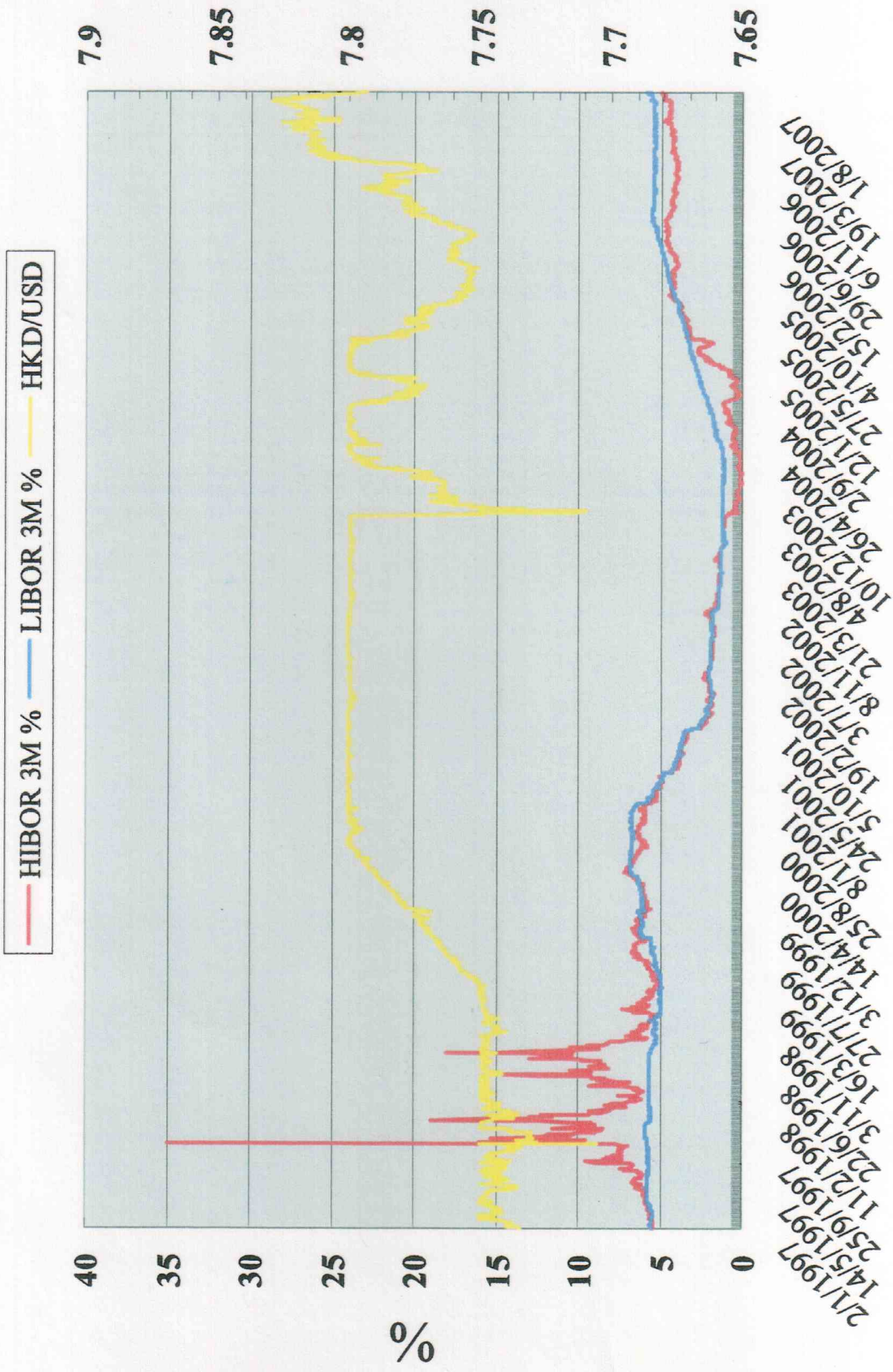
An important difference between CBs and dollarization is the fact that the domestic ~~currency~~ country continues to collect seignorage. This takes the form of interest earnings on the CBs holdings of foreign reserves.

Brief History of Hong Kong's Currency Board

- 1.) 1842 - HK becomes British Colony
(Treaty of Nanjing)
- 2.) 1863 - Silver becomes official currency
- 3.) 1934 - U.S. Silver Purchase Act
Silver outflows from China & HK
- 4.) 1935 - Currency Board (with Pound backing)
"Currency Ordinance of 1935"
Exchange Fund set-up to purchase silver
from public & sell it in London for £
- 5.) 1972 - Pound floats
Currency Board switches to \$ backing
- 6.) 1974 - HK \$ floats. Currency Board suspended

- 7.) 1983 - Sino-British negotiations
Currency Crisis
Restoration of \$ Currency Board
(US\$ 1 = HK\$ 7.8).
- 8.) 1988 - "Accounting Arrangements"
First step toward management of
banking system liquidity.
HSBC required to open a clearing
acct. with the Exchange Fund.
- 9.) June 1992 - "Liquidity Adjustment Facility"
Discount Window Lending to Banks
- 10.) Dec. 1992 - HKMA established
- 11.) Early 1990s - Govt. securities market established
(enables open market operations)
- 12.) 1994 - HKMA announces target for
inter bank interest rate
- 13.) 1997-98 - Speculative Attacks
- 14.) Aug. 1998 - "Convertibility Undertaking"
HKMA guarantees US\$ value of
banks clearing accounts.

Interest Rates and Spot Exchange Rate



Date

Source: HKMA