國際貨幣體系
－歷史綜述 (Part 1)

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[取材自Krugman, et al. (2018) chap. 8]

0 前言

- 國際貨幣體系?
  - The monetary, financial, and exchange rate arrangements that countries adopt—a set of institutions called the *international monetary system*
  - 在國際貨幣體系中，各國間的經濟金融活動與政策決定多少都會相互牽連與影響
- 不同的國際貨幣體系(如今本位)對總經政策的決策及其表現會有不同的影響
  - 各國如何維持其內部平衡(full employment with price stability)與外部平衡(avoiding excessive imbalances in international payments)
  - Why did different international monetary systems prevail at different times?

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- Did policy makers worry about the foreign repercussions (回應、反擊) of their actions, or did each adopt nationalistic measures that were self-defeating (徒勞無功) for the world economy as a whole?

1 開放經濟下總經政策的最終目標

- **internal balance** requires the full employment of a country's resources and domestic price level stability
- **External balance** is attained when a country's current account is neither so deeply in deficit that the country may be unable to repay its foreign debts in the future nor so strongly in surplus that foreigners are put in that position
  - Note: [external balance] ≠ {[BOP = 0] or [CA = 0]}

    平衡(balance) ≠ 均衡(equilibrium)

1-1 內部平衡(Internal Balance)

- When a country's productive resources are fully employed and its price level is stable, the country is in internal balance
  - The waste and hardship that occur when resources are **underemployed** is clear
  - … "overheated" and resources are ***overemployed***, however, waste of a different (though probably less harmful) kind occurs
    例如加班犧牲休閒、機器設備加速耗損等等
  - Under- and overemployment also lead to general price level movements (通膨或通縮) that reduce the economy's efficiency by making the real value of the monetary unit less certain and thus a less useful guide for economic decisions
  - One particularly disruptive result of an unstable price level is its effect on the real value of loan contracts

1-1

- The costs of inflation have been most apparent in the postwar period in countries such as Argentina, Brazil, Serbia, and Zimbabwe, where astronomical price level increases caused the domestic currencies practically to stop functioning as **units of account** or **stores of value**
- To avoid price level instability, therefore, the government must prevent large fluctuations in output, … In addition, it must avoid inflation and deflation by ensuring that the **money supply** does not grow too quickly or too slowly

1-2 外部平衡(External Balance)

- The notion of external balance is **more difficult to define** than internal balance …
- … identify external balance with **balance in a country's current account**. While this definition is appropriate in some circumstances, **it is not appropriate as a general rule**
  - Recall … that a country with a **current account deficit** is borrowing resources from the rest of the world that it will have to repay in the future …This situation is not necessarily undesirable, however
  - … paying back loans from foreigners poses no problem because a profitable investment will generate a return high enough to cover the interest and principal on those loans
  - Similarly, a **current account surplus** may pose no problem if domestic savings are being invested more profitably abroad than they would be at home

1-2

- … we may think of current account imbalances as providing another example of how countries gain from trade
  - Just as countries with differing abilities to produce goods at a single point in time gain from concentrating their production on what they do best and trading,
    countries can gain from concentrating the world's investment in those economies best able to turn current output into future output (*intertemporal trade*)
  - Countries with weak investment opportunities should invest little at home and channel their savings into more productive investment activity abroad (貿易順差、 資本淨流出)

1-2

- Put another way, countries where investment is relatively unproductive should be **net exporters** of currently available output (and thus have current account surpluses), while countries where investment is relatively productive should be **net importers** of current output (and have current account deficits)
- Other considerations may also justify an unbalanced current account. A country where output drops temporarily (for example, because of an unusually bad crop failure) may wish to borrow from foreigners to avoid the sharp temporary fall in its consumption that would otherwise occur
- In the absence of this borrowing, the price of present output in terms of future output would be higher in the low-output country than abroad, so the **intertemporal trade** that eliminates this price difference leads to mutual gains

1-2

- Insisting that all countries be in current account equilibrium makes no allowance for these important gains from trade over time …即使如此
- governments usually try to avoid extremely large external surpluses or deficits unless they have clear evidence that large imbalances are justified by potential intertemporal trade gains
  - 但是 the exact current account balance that maximizes the gains from intertemporal trade is difficult if not impossible to figure out (the optimal CA balance?)
- 總之，Current account balances that are very wide of the mark can, however, cause serious problems

1-2.1 經常帳赤字太大的問題

- large current account deficits represent temporarily high consumption resulting from misguided government policies or some other malfunction in the economy (如政府財政過度擴張、民間儲蓄傾向偏低、或投資效益低等等)
  - Every open economy faces an **intertemporal budget constraint** that limits its spending over time to levels that allow it to pay the interest and principal on its foreign debts (否則違約破產風險↑)
- When countries begin to have trouble meeting their payments on past foreign loans, foreign creditors become reluctant to lend them new funds and may even demand immediate repayment of the earlier loans (驟然終止，sudden stop)

1-2.1

- A large current account deficit can undermine foreign investors’ confidence and contribute to a sudden stop
  - In the event of a sudden stop, moreover, the larger the initial deficit, the larger and more painful the fall in domestic spending that is needed to make the economy live strictly within its means (量入為出)

1-2.2 經常帳順差過大的問題

- A surplus in the current account implies that a country is accumulating assets located abroad. Why are growing domestic claims to foreign wealth ever a problem?
- (1) One potential reason stems from the fact that, for a given level of national saving, an increased current account surplus implies lower investment in domestic plant and equipment
  - S = CA + I (來自國民所得會計等式) ，其中 CA = CF (資本淨流出)為BOP等式，CF > 0表示對外淨債權增加(債權形式包括外匯、外國金融資產等等)；given S，CF與 I 的分配互為大小
  - 上式等號左邊的S代表本地的可貸資金(loanable funds)供給，右邊則為來自國內外對可貸資金的需求，其中 I 為投資支出

1-2.2

  - 決策者多偏好給 I 配置較CF為多的可貸資金；why?
  - (I) the returns on domestic capital may be easier to tax than those on assets located abroad
  - (II) an addition to the home capital stock may reduce domestic unemployment and therefore lead to higher national income
  - (III) domestic investment by one firm may have beneficial technological spillover effects on other domestic producers
- (2) If a large home current account surplus reflects excessive external borrowing by foreigners, the home country may in the future find itself unable to collect the money it is owed
- (3) Excessive current account surpluses may also be inconvenient for political reasons
  - 例如中美貿易摩擦(或從前的日本)

1-2.3 總結

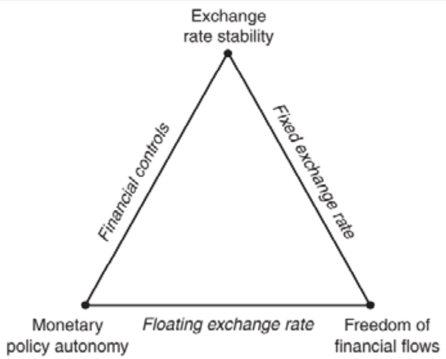
- The goal of external balance is a level of the current account that allows the most important gains from trade over time to be realized without risking the problems
- Because governments do not know this current account level exactly, they may try to avoid large deficits or surpluses
- There is a fundamental asymmetry, however, …
  - While big deficits that continue too long may be forcibly eliminated by a sudden stop in lending
  - there is unlikely to be a sudden stop in borrowing countries' willingness to absorb funds that are supplied by foreigners!
  - Thus, the adjustment pressures that confront deficit countries are generally much stronger than those facing surplus countries

2 貨幣體系抉擇－開放經濟的貨幣三面困局

- 有無貨幣體系可同時維持匯率穩定、物價穩定、利率穩定?
- policy makers in an open economy face an inescapable **monetary trilemma** in choosing the currency arrangements
- **1.** Exchange rate stability.
  2. Monetary policy oriented toward domestic goals.
  3. Freedom of international capital movements
  the available options are three: 1 and 2, 1 and 3, or 2 and 3 (見下圖)

開放經濟的貨幣三面困局(Trilemma)

- 任一貨幣體系只能達成兩個目標
  - 固定匯率制：匯率穩定+金流自由化
  - 金融管制(限制資產(跨境)自由移動)：匯率穩定+貨幣政策自主性
  - 浮動匯率制：貨幣政策自主性+金流自由化



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- Of course, the trilemma does not imply that **intermediate regimes** are impossible
  - more aggressive monetary intervention to manage the exchange rate can reduce exchange rate volatility (如管理浮動匯率), but only at the cost of reducing the ability of monetary policy to pursue targets other than the exchange rate (即MP自主性↓)
  - a **partial opening of the financial account** will allow some cross-border borrowing and lending … will require larger volumes of intervention (for) fixing the exchange rate , and potentially larger drains on foreign exchange reserves …
    The central bank's ability to guarantee exchange rate stability (by avoiding devaluations and crises) will therefore decline

3 金本位下的國際總經政策(1870-1914)

- 3-1 金本位的源起
  - 古代的商品貨幣(如金幣)…
  - the gold standard as a legal institution dates from 1819, when the British Parliament repealed long-standing restrictions on the export of gold coins and bullion from Britain
  - Later in the 19th century, the United States, Germany, Japan, and other countries also adopted the gold standard
  - At the time, Britain was the world's leading economic power … London naturally became the center of the international monetary system built on the gold standard

3-2 金本位下的外部平衡

- Under the gold standard, the primary responsibility of a central bank was to fix the exchange rate between its currency and gold. To maintain this official gold price, the central bank needed an adequate stock of gold reserves
  - 即維持一定的黃金國際準備部位(盡量不多不少)
  - To avoid large gold movements, central banks adopted policies that pushed the balance of payments (T帳線以上的差額) toward zero
  - A country is said to be in **balance of payments equilibrium** when the sum of its current and capital accounts, less the nonreserve component of net financial flows abroad, equals zero
- Many governments took a laissez-faire attitude toward the current account
  - the economic writing of the gold standard era places little emphasis on problems of current account adjustment

3-3 價金流程機制

- the **price-specie-flow mechanism,** was recognized by the 18th century (In 1752, David Hume …)
  - Suppose Britain's current plus capital account surplus is greater than its nonreserve financial account balance ⇒ flows of …gold into Britain (因黃金為唯一的國際儲備、國際通貨)
  - ⇒ Ms(UK)↑、Ms(外國)↓ ⇒ P(UK)↑、P(外國)↓
  - ⇒ EX-IM(UK) ↓、EX-IM (外國) ↑
  - Eventually, therefore, reserve movements stop and all countries reach balance of payments equilibrium (外國反向調整，結果亦同)

3-4 金本位的遊戲規則－理想與現實

- In theory, the price-specie-flow mechanism could operate automatically 但是 …
- 在持續流失黃金準備時，央行經常利用利率政策意圖吸引外國資金流入(note: R↑、CF↓)
  - 持續流入者則採反向操作(即購入本地資產讓R↓)
- These domestic credit measures, if undertaken by central banks, **reinforced** the price-specie-flow mechanism by pushing all countries toward balance of payments equilibrium
  - 因有緊縮(或寬鬆)貨幣政策的推波助瀾
  - After World War I, the practices of selling domestic assets in the face of a deficit and buying domestic assets in the face of a surplus came to be known as the gold standard "rules of the game"—a phrase reportedly coined by Keynes

3-4

- 但是，被默認的遊戲規則有不對稱的問題
  - the incentives to obey the rules applied with greater force to deficit than to surplus countries
  - 結果…Deficit countries competing for a limited supply of gold reserves might adopt **overly contractionary monetary policies** that harmed employment while doing little to improve their reserve positions
  - 因此為了本地經濟著想… countries often reversed the rules and *sterilized* gold flows (以維持貨幣(及物價)情勢不變)
- The picture of smooth and automatic balance of payments adjustment before World War I therefore did not always match reality

3-5 金本位下的內部平衡

- While price levels within gold standard countries did not rise as much between 1870 and 1914 as over the period after WW II, national price levels **moved unpredictably over shorter horizons** as periods of inflation and deflation followed each other
- In addition, the gold standard does not seem to have done much to ensure full employment
- A fundamental cause of short-term internal instability under the pre-1914 gold standard was the subordination of economic policy to external objectives (反映三面困局的本質)
  - The importance of internal policy objectives increased after World War II as a result of the worldwide economic instability of the interwar years, 1918–1939 (一戰後二戰前，即兩次大戰期間)

4 兩次大戰期間(1918-1939)

- Governments effectively suspended the gold standard during World War I and financed part of their massive military expenditures by printing money
- 4-1 瞬間回歸金本位
  - The United States returned to gold in 1919
  - In 1922, at a conference in Genoa, Italy, a group of countries including Britain, France, Italy, and Japan
  - In 1925, Britain returned to the gold standard by pegging the pound to gold …但為維持戰前強勢英鎊…貨幣過度緊縮…失業↑

    The onset of the **Great Depression in 1929** was shortly followed by bank failures throughout the world …

    Britain left gold in 1931 when foreign holders of …lost confidence in Britain's promise to maintain its currency's value and began converting their sterling to gold

4-2 國際經濟解體

- As the depression continued, many countries renounced the gold standard and allowed their currencies to float in the foreign exchange market
  - The United States left gold in 1933 but returned in 1934, having raised the dollar price of gold from $20.67 to $35 per ounce
  - Countries that clung to the gold standard without devaluing their currencies (the "Gold Bloc," led by France) suffered most during the Great Depression
  - recent research places much of the blame for the depression's worldwide propagation on the gold standard itself
- 為支撐本國經濟而紛紛採保護政策
  - Major economic harm resulted from restrictions on international trade and payments, which proliferated as countries attempted to discourage imports and keep aggregate demand bottled up at home

4-2

  - The foreign response involved retaliatory trade restrictions and preferential trading agreements among groups of countries
  - Several countries in Europe, most notably Germany, Spain and, to a lesser degree, Italy, turned towards autarky
  - World trade collapsed dramatically … everyone is hurt when countries *simultaneously* adopt beggar-thy-neighbor (以鄰為壑) policies
  - Uncertainty about government policies led to sharp reserve movements for countries with pegged exchange rates and sharp exchange rate movements for those with floating rates
  - 出現各種保護政策… capital controls、Trade barriers、repudiations of international debts
- In short, the world economy disintegrated into increasingly autarkic (that is, self-sufficient) national units in the early 1930s

5 布列敦森林體系與國際貨幣基金

- All countries would have been better off in a world with freer international trade, provided international cooperation had helped each country preserve its external balance and financial stability without sacrificing internal policy goals
- It was this realization that inspired the blueprint for the postwar international monetary system, the **Bretton Woods agreement**
- In July 1944, representatives of 44 countries meeting in Bretton Woods, New Hampshire, drafted and signed the Articles of Agreement of the **International Monetary Fund (IMF)**
  - ROC亦參與其中

5

- Rightly or wrongly, the interwar experience had convinced the IMF's architects that floating exchange rates were a cause of speculative instability and were harmful to international trade

5-1 IMF的目標與組織架構

- The system set up by the Bretton Woods agreement called for fixed exchange rates against the U.S. dollar and an unvarying dollar price of gold—$35 an ounce
  - Member countries held their official international reserves largely in the form of gold or dollar assets and had the right to sell dollars to the Federal Reserve for gold at the official price
  - Since high U.S. monetary growth would lead to dollar accumulation by foreign central banks, the Fed itself was constrained in its monetary policies by its obligation to redeem those dollars for gold
  - The system was thus a gold exchange standard, with the dollar as its principal reserve currency (各國貨幣(N-1)釘住美元，美元釘住黃金)

5-1

- After the experience of the Great Depression, governments were widely viewed as responsible for maintaining full employment
- The IMF agreement therefore tried to incorporate sufficient flexibility to allow countries to attain external balance in an orderly fashion without sacrificing internal objectives or predictable exchange rates
- Two major features of the IMF Articles of Agreement helped promote this flexibility in external adjustment
  - (1) to form a pool of financial resources that the IMF could lend to countries in need
  - (2) devaluations and revaluations were (allowed with the agreement of the IMF and) carried out only in cases of an economy in *fundamental disequilibrium* (如遇有永久性需求衰退，只有調降…)

5-1

- The flexibility of an adjustable exchange rate was not available, however, to the "*N*th currency" of the Bretton Woods system, the U.S. dollar (跟黃金…)
- How did the Bretton Woods system resolve the trilemma? …the system was based on the presumption that movements of private financial capital could be restricted
  - the architects of the Bretton Woods system hoped to ensure that countries would not be forced to adopt contractionary monetary policies for balance of payments reasons in the face of an economic downturn
  - In theory, policy makers would be able to change exchange rates in a deliberate fashion, without the pressure of massive speculative attacks (但其實投機性攻擊從未消失…)

5-2 可兌(換)性與民間金流大幅的擴張

- To promote efficient multilateral trade, the IMF Articles of Agreement urged members to make their national currencies convertible as soon as possible
  - A **convertible currency** is one that may be freely exchanged for foreign currencies… General *in*convertibility would make international trade extremely difficult
  - The U.S. and Canadian dollars became convertible in 1945…
- Because dollars were freely convertible, much international trade tended to be invoiced in dollars
  - the dollar became an international money (the postwar world's key currency)—a universal medium of exchange, unit of account, and store of value

5-2

- The restoration of convertibility did not result in immediate and complete international financial integration
  - On the contrary, most countries continued to maintain restrictions on financial account transactions, a practice that the IMF explicitly allowed (但其後金融帳管制益發無效…)
  - trade practices—known, respectively, as "leads" and "lags"(貨物尚未實際交付的提前或延期結匯，等同私下的借貸記帳及延遲支付行為)—provided two of the many ways through which official barriers to private capital movements could be evaded
  - 民間創造的跨國借貸信用工具⇒The Bretton Woods resolution of the trilemma was gradually coming undone
    亦即形式上允許金融帳管制，但實際上卻管不了

5-3 投機性資本移動與危機

- A country with a large and persistent current account deficit might be suspected of being in "fundamental disequilibrium" under the IMF Articles of Agreement, and thus ripe for a currency devaluation.

  Suspicion of an impending devaluation could, in turn, spark a balance of payments crisis
- 發生巨額經常帳赤字者⇒市場預期幣值調降(devaluation)⇒央行流失國際準備，致最終無力支撐釘住匯率
- 反之，發生巨額經常帳盈餘者⇒市場預期幣值調升(revaluation) ⇒失控的貨幣供給成長⇒P↑、內部失衡
- 央行不甘如市場預期進行匯價重整，否則即坐實投機性攻擊的意圖

5-3

- Balance of payments crises nonetheless became increasingly frequent and violent throughout the 1960s and early 1970s
  - … British trade balance deficit in early 1964 led to a period of intermittent speculation against the pound… until November 1967, when the pound was finally devalued
  - France devalued its franc and Germany revalued its mark in 1969 after similar speculative attacks
  - These crises became so massive by the early 1970s that **they eventually brought down the Bretton Woods structure of fixed exchange rates**

5-3

- The possibility of a balance of payments crisis therefore lent increased importance to the external goal of a current account target
  - Even current account imbalances justified by differing international investment opportunities or caused by purely temporary factors might have fueled market suspicions of an impending parity change
- In this environment, policy makers had additional incentives to avoid sharp current account changes