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The Operation and Demise of the Bretton Woods System; 1958 to 1971*

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This chapter revisits the history of the origins, operation and demise of the Bretton Woods International Monetary System. The Bretton Woods system was created by the 1944 Articles of Agreement to design a new international monetary order for the post war at a global conference organized by the US Treasury at the Mount Washington Hotel in Bretton Woods, New Hampshire at the height of World War II. The Articles represented a compromise between the American plan of Harry Dexter White and the British plan of John Maynard Keynes. The compromise created an adjustable peg system based on the US dollar convertible into gold at $35 per ounce along with capital controls. It was designed to combine the advantages of fixed exchange rates of the pre-World War I gold standard with some flexibility to handle large real shocks. The compromise gave members both exchange rate stability and the independence for their monetary authorities to maintain full employment.

It took over a decade for the fully current account convertible system to get started. The system only lasted for 12 years from 1959 to 1971 but it did deliver remarkable economic performance. The BWS evolved into a gold dollar standard which depended on the US monetary authorities following sound low inflation policies. As the System evolved it faced the same severe fundamental problems as in the interwar gold exchange standard of: adjustment, confidence and liquidity. The adjustment problem meant that member

countries with balance of payments deficits, in the face of nominal rigidities, ran the gauntlet between currency crises and recessions. Surplus countries had to sterilize dollar inflows to prevent inflation.

The U.S. as center country faced the Triffin dilemma. With the growth of trade and income member countries held more and more dollars instead of scarce gold as reserves generated by a growing US balance of payments deficit. As outstanding dollar liabilities grew relative to the US monetary gold stock confidence in the dollar would wane raising the likelihood of a run on Fort Knox. This led to the possibility that the US would follow tight financial policies to reduce the deficit thereby starving the rest of the world of needed liquidity leading to global deflation and depression as occurred in the 1930s. Enormous efforts by the US, the G10 and international institutions were devoted to solving this problem.

As it turned out, after 1965 the key problem facing the global economy was inflation, not deflation, reflecting expansionary Federal Reserve policies to finance the Vietnam war and the Great Inflation. US inflation was exported through the balance of payments to the surplus countries of Europe and Japan leading them in 1971 to begin converting their outstanding dollar holdings into gold. In reaction President Richard Nixon closed the US gold window ending the BWS.

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1. Introduction

The Bretton Woods system was established to avoid the perceived problems of the interwar period: protectionism (the devolution of international trade from multilateralism to bilateralism and autarky), beggar thy neighbor devaluations ('currency wars'), hot money flows and unstable exchange rates[1]; and to provide a framework of monetary and financial stability to foster global economic growth and the growth of international trade.

The system established in the 1944 Agreement was a compromise between the fixed exchange rates of the gold standard, seen as conducive to rebuilding the network of global trade and finance, and the greater flexibility to which countries had resorted to in the 1930s in the effort to restore and maintain domestic economic and financial stability.

It was a compromise between John Maynard Keynes' UK plan for the establishment of a supra national central bank, The International Clearing Union, and Harry Dexter White's US plan for a United Nations Stabilization Fund. It was designed to combine the advantage of fixed exchange rates of the pre World War I war gold standard with some flexibility to handle large real shocks. Each member would declare a par value of its currency in terms of dollars while the United States declared the par value of the dollar as $35.00 per ounce of gold. The Articles of Agreement formally obliged member countries to ask the IMF for permission in advance before adjusting their parities, as a way of preventing opportunistic,

[1] See Taylor (2015).

beggar-thy –neighbor exchange rate changes. Adjustment would occur in the face of a fundamental disequilibrium which was never defined but has been later construed to mean an imbalance requiring a change in the real exchange rate. Thus the Bretton Woods system was set up as an adjustable peg system.

The Agreement further obliged countries to remove restrictions on the current account while permitting them to maintain controls on transactions on capital account (so as to limit destabilizing capital flows). Capital controls and the ability to adjust parities in the face of shocks gave members the flexibility to use domestic monetary and fiscal policy to alleviate business cycle shocks but adherence to the pegged parities limited the size of these policy actions. The IMF, based on the principle of a credit union, whereby members could withdraw more than their original gold quotas[2] was to provide relief to members for temporary current account shortfalls.

The system evolved differently from what the framers of Bretton Woods first imagined. Originally currencies were treated as equal in the Articles. In theory each country was required to maintain their par values by intervening in terms of the currency of every other country but because the United States was the only country which pegged its exchange rate to gold, the others set their parities in terms of dollars and intervened in the dollar market. Thus the system evolved into a gold dollar standard which in many ways resembled the interwar gold exchange standard.

[2] Up to the amount of their total contribution with conditions attached.

The dollar emerged into prominence in the 1950s because of the sheer size of the role that the U.S. played in the world economy, its importance in world trade and its open and deep capital markets. Thus the dollar emerged in the 1950s as a private international money (McKinnon 1988). By the 1960s it was used as a unit of account in invoicing imports and exports, as a medium of exchange in serving as a vehicle currency for interbank transactions, and as a store of value for private claims for much of the world, although some countries closely linked to British trade and payments primarily used sterling. At the same time, the dollar emerged as an official international money. This stemmed from its use as a unit of account to define the parities of the member countries and because the dollar was used as the primary intervention currency. Finally because of its role as a unit of account and a medium of exchange and its growing private acceptance, it became the dominant international store of value to be used as reserves. The growing private and official demands for dollars were supported through private and official long-term capital outflows in excess of a current account surplus which produced a series of official settlement balance of payments deficits beginning as early as 1950 (Bordo 1993, page 47).

This paper focuses on the Bretton Woods System in the period 1958 to 1971 after the Western European members declared current account convertibility until the closing of the gold window by President Richard Nixon on August 15 1971, which effectively ended it. I describe the problems in getting the system started ,the operation of the System and the problems faced by the United States. I also discuss the problems faced by other key members, the policies adopted by governments, the IMF and other international institutions to preserve the System Finally I describe the breakdown of the System between 1968 and 1971.

2. Getting the System Started

It took close to fifteen years to get the Bretton Woods system fully operating. A number of overwhelming obstacles stood in the way. The first was **bilateralism** -- for most countries, with the major exception of the United States, there were pervasive exchange controls and controls on international trade. Along with exchange controls, every country negotiated a series of bilateral agreements with each of the trading partners. The rationale for the use of controls and bilateralism was a shortage of international reserves. The devastated economies of Europe and Asia were unable to produce the exports needed to generate foreign exchange.

The second problem facing the System was a **dollar shortage**. By the end of World War II the US held two thirds of the world's monetary gold stock and gold and dollar reserves were depleted in the rest of the world. Europe ran a massive current account deficit reflecting the demand for essential imports and the reduced capacity of its export industries. The dollar shortage was aggravated by overvalued official parities by the major European industrial countries set at the end of 1946. The IMF pressured its members to declare par values as soon as possible and if the exchange rate chosen was inappropriate, it could be corrected later. Indeed most countries adopted their prewar parities on the assumption that wartime and post war inflation did not seriously disrupt their competitive position relative to the United States (Triffin 1957).

By the early 1950s both problems had been solved by two developments; the Marshall Plan and the European Payments Union (EPU). The Marshall Plan funneled approximately $13 billion in grants and loans to Western Europe between 1948 and 1952. The Economic Cooperation Act of 1948, which created the Marshall Plan was designed to help the European countries expand their economies, restore their export capacity, and, by creating economic stability preserve political stability. These results would follow from providing relief from the burden of financing a massive payments deficit.

The EPU was established in 1952 under the auspices of the OEEC (Organization of European Economic Cooperation) to simplify bilateral clearing and pave the way to multilateralism (Kaplan and Schlieminger 1989). The EPU followed the basic principle of a commercial bank clearing house. At the end of each month, each member would clear its net debit or credit position against all of its members with the EPU, with the Bank for International Settlement (BIS) acting as its agent. The EPU became the center of a worldwide multilateral settlement area, including the countries of the sterling and franc zone. The process of multilateralism continued until eight European countries declared their currencies convertible for current account transactions on December 27, 1958 (Bordo 1993 page 431).

The third problem getting started concerned the role of the IMF. The IMF, by intention, was not equipped to deal with the postwar reconstruction problem.

Most of the structural balance of payments assistance in this period was provided by the Marshall Plan and other U.S. aid including the Anglo-American loan of 1945. In a sense the U.S. replaced the IMF. As a consequence new institutions such as the OEEC and existing institutions such as the BIS emerged as competing sources of international monetary authority. Moreover the Fund did very little to speed up the process of achieving multilateralism .

The Fund also was criticized for seeking a declaration of par values too soon. The resultant fixed parities then set in motion forces within each country to resist devaluation until it was done in the face of a currency crisis. The crisis associated with the 1949 sterling devaluation (consequent on the 1947 sterling crisis) in turn created further resistance by monetary authorities to changes in parity (Schenk 2010), which ultimately changed the nature of the international monetary system from the adjustable peg intended in the Articles to a fixed exchange rate regime.

The Fund's prestige was dealt a severe blow by three events in the pre convertibility period (Mundell 1969a). The first occurred when France devalued the franc in 1948 and created a multiple exchange rate system. This violated Article IV, section 5 of the Articles and France was then denied access to the Fund's resources until 1952. Since France had access to Marshall plan aid, the Fund's actions had little effect.

Second was the sterling devaluation of September 1949 when the Fund was given only twenty four hours advance notice which also violated Article IV, section 5. This event revealed the Fund's inability to deter a major power from following its sovereign interest.

Third was Canada's decision to float its currency in 1950 again in violation of the Articles. The Fund was highly critical of the action. The Canadian authorities assured the Fund that it was only a temporary expedient reflecting a massive capital inflow from the US during the Korean war. As it turned out Canada did not return to the par value system until 1961 and in contrast to the Fund's warnings, while the Canadian dollar freely floated there were only limited swings in it and the Canadian economy performed better than it did when it was part of the par value system (Bordo, Dib and Schembri 2010).

Fourth, the Fund's resources were inadequate to solve the emerging perceived liquidity problem of the 1960s. The difference between the growth of international reserves required to finance the growth of real output and trade and avoid deflation and the growth in the world's monetary gold stock was met largely by an increase in official holdings of U.S. dollars resulting from U.S. balance of payments deficits. By the time full convertibility was achieved, the U.S. dollar was serving the buffer function for which the Articles intended the Fund's resources (Mundell 1969a, page 481).

The final development that preceded the full operation of the Bretton Woods system was the decline of sterling as a reserve currency. At the outset it was expected that sterling would play an important role in the postwar period. At the end of World War II, Britain ran a massive balance of payments deficit in gold and dollars. It also had an outstanding sterling debt of 3.7 billion pounds amassed by borrowing from the British Empire, most of which was made inconvertible into dollars. The 1946 Anglo American loan of $3.75 billion from the U.S. and $1.25 billion from Canada was to allow Britain to ratify the Bretton Woods Articles and restore current account convertibility in dollars. Current account convertibility was restored in July 15 1947 quickly followed by a run on sterling which rapidly depleted the UK's reserves and led to the suspension of convertibility on August 20 1947. This event as well as the devaluation of sterling in 1949 greatly weakened sterling's credibility as a reserve currency. Sterling's devaluation was quickly followed by 23 countries.

The devaluation of 1949 was important for the system because it and Marshall Plan aid (by both boosting trade liberalization and removing political uncertainty) helped move key European countries from a current account deficit to a surplus which was important to the eventual restoration of convertibility. It was also important because it revealed a basic weakness with the adjustable peg arrangement – the one way option of speculating against parity. By allowing changes in parity only in the event of a fundamental disequilibrium the system encouraged the monetary authorities to delay adjustment until they were sure it was necessary. By then, speculators would also be sure and they would take a position from which they could not lose (Friedman 1953).

3. The Operation and Flaws of the BWS

The Bretton Woods system became functional in December 1958 almost 15 years after the original conference, when the Western European countries declared current account convertibility. Japan followed in 1961. The convertible Bretton Woods sytem that began at the end of 1958 differed in a number of ways from the system intended by its architects. These included the dominance of the United States in the international monetary order, the reduced prestige of the IMF, the rise of the dollar as a key currency and the decline of sterling, a shift from the adjustable peg system towards a de facto fixed exchange rate and growing capital mobility. Despite the prevalence of capital controls in most countries, private long-term capital mobility increased considerably in the 1950s, and speculative short-term capital movements (through leads and lags in the invoicing of exports and imports) emerged as a force to threaten the attempt by monetary authorities to maintain a parity far from fundamentals.

Although the Bretton Woods system was short-lived, it lasted in its convertible phase from 1959 to 1971, and as we discuss below it had many problems, yet economic performance during its existence was remarkable. The Bretton Woods system(along with trade liberalization under the GATT) was associated with higher and more stable economic growth than in any other period in the past 150 years with the exception of the Great Moderation from 1983 to 2006. In addition inflation performance, both in terms of levels and variation was also superior to previous and subsequent regimes with the principal exception of the classical gold standard and the Great Moderation periods. (Bordo and Schwartz 1999, Benati and Goodhart 2010) . However, as we discuss below inflation began to rise in 1965 leading to the Great Inflation of the 1970s.

Problems for Bretton Woods began well before the declaration of current account convertibility. First came a series of speculative attacks on the members that had misaligned currencies. The UK devaluation of 1949 was followed by that of 23 countries. Other adjustments driven by speculative attacks occurred in the 1950s and 1960s.[3]

Second, the UK as the second reserve country was under continued pressure and frequent attack because of a basic overvaluation of sterling reflecting slower productivity growth and higher inflation than its competitors. A series of four currency crises from 1961 to 1967 led to massive rescues by the IMF, the G10 and the Federal Reserve culminating in the devaluation of November 1967 and the effective end of sterling's role as a reserve currency (Bordo, MacDonald and Oliver 2010).

Third, as the system evolved into a gold dollar standard, the three big problems of the interwar gold exchange standard re emerged: the adjustment, confidence and liquidity problems.

The Adjustment Problem

The adjustment problem in Bretton Woods reflected downward rigidity in wages and prices which prevented the normal price adjustment of the gold standard price specie flow mechanism to operate. Consequently, payments deficits would

[3] Canada devalued in 1949 and floated in 1950, France devalued in 1957, 1958 and 1969, Italy devalued in 1961, the Netherlands revalued in 1961 and Germany revalued in 1961 and 1969.

be associated with rising unemployment and recessions. The reluctance to follow tight monetary and fiscal policies (in most advanced countries with the principal exceptions of Germany and Switzerland) except in the face of a currency crisis, reflected the strong commitment to full employment and a social safety net .For surplus countries inflationary pressure would ensue which they would try to block by sterilization and capital controls.

The United Kingdom between 1959 and 1967 alternated between expansionary monetary and fiscal policies designed to maintain full employment and encourage economic growth and austerity programs—a strategy referred to as stop-go. The connecting link was the state of the balance of payments. Expansionary policy inevitably led to deterioration in the current account, a decline in international reserves and speculation against the sterling parity.

On several occasions, standby loans were drawn from the IMF and rescue packages arranged by the G10 through the BIS.[4] (referred to as Basle Operations and Arrangements, Bordo and Schenk 2017). These took place in 1957, 1961 and 1964. The final crisis occurred in 1966-67 ending in sterling's devaluation in November 1967, in which the Federal Reserve and other central banks contributed to a $3 billion rescue package which was insufficient to stem the speculative attack. After the November 1967 devaluation and the 1968 Basel Agreement(in which the members of the Sterling area received a dollar guarantee of their sterling holdings) sterling ceased to be an effective international reserve currency (Schenk 2010).

[4] Referred to as Basel Operations and Arrangements (Bordo and Schenk 2017).

The experience of the UK was important for the adjustment issue because it was a country with a chronic balance of payments deficit forced to take corrective action [5]. For the U.S. sterling as an alternative reserve currency was viewed as a first line of defense for the dollar (Bordo, Humpage and Schwartz 2015).

During this period, every technique and tool recommended by the Organization for Economic Cooperation and Development (OECD)'s Working Party 3 on adjustment was used. Other facilities to provide the liquidity needed for adjustment were developed (Basel arrangements, short-term swaps (extensions of inter-central bank credit lines) and longer term facilities. The IMF instituted the General Arrangements to Borrow (GAB) in 1961, in which the G10 countries provided a $6 billion line of credit in hard currencies to the IMF.

West Germany (1959-67) (also the Netherlands) was a surplus country facing the opposite problem to the UK. Rapid economic and export growth and relatively slow inflation led to a series of current account surpluses and reserve inflows in the 1950s and 1960s. Concern over the inflationary consequences of the balance of payments surplus led the German monetary authorities in 1955 to both follow tight monetary policy and to institute measures to prevent capital inflows, including the prohibition of interest payments and discriminatory reserve requirements on foreign deposits. Finally, in 1961 the Deutsche Mark was revalued by 5%. The package of tight money and capital controls was repeated again in 1964-66 and 1968. Germany resisted adjustment during the Bretton Woods era. The German monetary authorities

[5] France had been in a similar position in 1950.

believed that the key problem of the international monetary system was inflation imported from abroad (Bordo 1993 pp 54-55).

Asymmetric adjustment between the United States and the Rest of the World

In the Bretton Woods pegged exchange rate system the United States as central reserve country did not have to adjust to its balance of payments deficit. It was the n-1th currency in the system of n currencies (Mundell. 1969b). Other countries had to intervene in their foreign exchange markets and buy or sell dollars to maintain their pegs. The US Treasury only had to intervene in the gold market to maintain the fixed dollar price of gold at $35 per ounce. Indeed, as a matter of routine the Federal Reserve automatically sterilized dollar outflows.

This asymmetry of adjustment was resented by the Europeans. The Germans viewed the U.S. as exporting inflation to surplus countries through its deficits (Emminger 1967). The French resented U.S. financial hegemony and the seigniorage that the U.S. earned on its outstanding liabilities (Rueff 1967). They preferred jettisoning the gold dollar system and returning to the classical gold standard.

The U.S. monetary authorities began to worry about the balance of payments deficit because of its effect on **confidence**. As official dollar liabilities held abroad mounted with successive deficits, the likelihood increased that these dollars would be converted into gold and that the U.S. monetary gold stock would eventually reach a point low enough to trigger a run. This was actually what happened to the Gold Exchange standard in the interwar period. Indeed, by 1959, the U.S. monetary gold stock equaled total external dollar liabilities and the rest of the world's monetary gold stock exceeded that of the United States. By 1964, official dollar liabilities held by foreign monetary authorities exceeded the U.S. monetary gold stock. See figure 1.

A second source of concern, which also echoed the interwar, was the dollar's role in providing liquidity to the rest of the world. Elimination of the U.S. balance of payments deficit (as the Germans and French urged) could create a worldwide liquidity shortage. Much concern through the 1960s was over how to provide this liquidity.

Robert Triffin (1960) captured the problems in his famous dilemma. Because the Bretton Woods parities which were declared in the 1940s had undervalued the price of gold, gold production would be insufficient to provide the reserves to finance the growth of global trade. Moreover, the main source of supply at the time, the USSR and South Africa were unreliable (Gilbert 1968). Under the gold dollar standard, the shortfall would be met by US dollars provided by capital outflows from the US manifest in its balance of payments deficit. Triffin posited that as outstanding US dollar liabilities mounted they would increase the likelihood of a classic bank run when the rest of the world's monetary authorities would convert their dollar holdings into gold (Garber 1993). According to Triffin, when the tipping point would occur the US monetary authorities would tighten monetary policy and this would lead to global deflationary pressure and, in the face of nominal rigidities, global depression as in the 1930s (Bordo Erceg and

Evans 2000)[6]. Triffin's solution was to create a form of global liquidity like Keynes's (1943) bancor to act as a substitute for US dollars in international reserves. This was achieved in 1969 with the creation of the SDR (special drawing rights sometimes referred to as paper gold). This was too little and too late to save the system.

Another way to think about the problems of Bretton Woods is in terms of the open economy trilemma posited by Obstfeld and Taylor (2004). According to the trilemma only two of three conditions could prevail; fixed exchange rates; an open capital account; and independent monetary policy. In the Bretton Woods system the trilemma would be solved by imposing capital controls. This would allow the domestic monetary authorities to maintain full employment and low inflation while keeping the exchange rate pegged. As events unfolded member states followed financial policies inconsistent with the pegged rates and capital controls were increasingly evaded leading to speculative attacks.

4.Policies to Shore Up the System

[6] As it turned out Triffin's predictions never came true. As it is argued below , the System did not collapse into deflation but exploded into inflation . Bordo and Mccauley 2017.

The problems of the Bretton Woods System were dealt with by the IMF, the G10 plus Switzerland and by the U.S. monetary authorities. The remedies followed often worked in the short-run but not in the long-run. The main threat to the system as a whole was the Triffin problem which was exacerbated after 1965 by expansionary U.S. monetary and fiscal policy which led to rising inflation. Misalignments between member countries other than the U.S. also aggravated the basic problem because deficit countries like the U.K. would settle their imbalances with surplus countries like Germany in dollars, which in turn increased the threat of eventual conversion into U.S. monetary gold. The ongoing U.S. balance of payments deficits and depleting gold stock, which were initially viewed as temporary were dealt with by actions taken both by the Treasury and the Federal Reserve.

The event which galvanized action was a spike in the London price of gold to $40.50 in October 1960. It was based on the fear in the financial markets that if John F Kennedy were to be elected as President that he would pursue inflationary policies. The Treasury developed policies to both discourage conversion of dollars into gold by the Europeans, e.g. moral suasion on Germany with the threat to pull out U.S. troops, the creation of the Gold Pool in 1961 (eight central banks pooled their gold reserves to be used to keep the London price of gold close to the $35 per ounce parity price), the issue of Roosa bonds(foreign currency denominated bonds to discourage US allies from converting dollars into gold, originated by Robert Roosa, Undersecretary of the Treasury for Monetary Affairs) , The General Arrangements to Borrow (GAB) 1961 which created an IMF lending facility large enough to offer substantial credit to the United States.),Operation Twist in 1962(the U.S. Treasury bought long term debt to lower long term interest rates and encourage investment while the Federal Reserve simultaneously sold short –term Treasury bills to raise short –term interest rates to attract capital inflows), and the Interest Equalization Tax in 1963 (which imposed a tax on capital outflows). The U.S.Treasury also engaged in sterilized exchange market intervention, both spot and forward, using the Exchange Stabilization Fund, which had been created in 1934 from the proceeds of Roosevelt's devaluation of the dollar (Bordo, Humpage and Schwartz 2015 chapter 3). In 1961, to tap the Fed's greater resources, the Treasury requested it to join in the intervention. The main instrument used by the Fed to protect the gold stock was the swap network. It was designed to protect the U.S. gold stock by temporarily providing an alternative to foreign central bank conversion of their dollar holdings into gold. In a typical swap transaction, the Federal Reserve and a foreign central bank would undertake simultaneous and offsetting spot and forward exchange transactions typically at the same exchange rates and equal interest rates.

The swaps in turn became valuable to foreign monetary authorities in the face of a currency crisis, e.g. the UK 1961 to 1967 and France 1968-69. The Federal Reserve swap lines increased from $ 900 million to $11.2 billion between March 1962 and the closing of the gold window in August 1971 (Bordo, Humpage and Schwartz 2015). See Figure 2 and Figure 3 .As can be seen in figure 3 until 1967 sterling took up the lions share of the swap lines.

The swaps and the ancillary Treasury policies did protect the U.S. gold reserve until the mid 1960s and were viewed at the time as successful policies. Indeed during the period 1959 to 1967 the Bretton Woods system functioned reasonably well with the various cooperative arrangements that had been worked out by the G10, the BIS and the IMF (Bordo and Schenk 2017).

In addition to the many policies designed to solve the U.S. adjustment problem, following Triffin's approach, a number of plans were instituted to provide alternative forms of liquidity for the international monetary system to gold and dollars. Triffin's own solution was to go back to the Keynes plan and have the IMF serve as the world's central bank and issue bancor (international fiat money). An alternative plan was Edward Bernstein (first Research Director of the IMF)'s plan to issue CRU-- a composite reserve unit. Under the Bernstein plan, each member of the G10 would subscribe an amount of its own currency to a pool and receive in exchange a corresponding amount of CRUs which could then be used as equivalent to gold. An extension of the CRU was the Special Drawing Right (SDR) which was adopted under the First Amendment to the IMF articles in 1969. In the SDR scheme, a special drawing account was set up at the Fund, separate from the general account. In contrast to the CRU, access to SDRs was made available to all members, not just the G10. Members were credited SDRs in proportion to their quotas. Also unlike the CRU, the SDR was a fiat obligation and was not backed by gold, although it was valued in terms of gold at par with the U.S. dollar. Its acceptability derived from the obligation by other members to accept SDRs in exchange for providing hard currency. Members had to accept SDRs when the Fund mandated their acceptance, as long as their holdings were less than three times their cumulative allocation. The IMF Articles were amended in 1969 creating the SDR. It was activated in 1970.

Several plans were also suggested to alleviate the confidence problem. These included: substituting SDRs for gold and dollars as reserve assets “the substitution account” (McCauley and Schenk 2015). Many felt that this would just put the pressure onto the new asset; doubling the official price of gold (Rueff 1967, Gilbert 1968). It would create sufficient liquidity to alleviate both the liquidity and adjustment problems. Also, the rise in the official price of gold would encourage gold production and discourage private demand. Growth in the world monetary gold stock would be sufficient to finance the growth of real output and prevent a threat to US gold reserves for the foreseeable future. It was opposed on the grounds that it was time inconsistent, that if the official price of gold were raised once why would it not happen again? Market agents would expect a change in gold’s price in the future and would reduce their holdings of dollars permanently. Second it would only postpone the problem because eventually, in the face of rapid real growth scarcity would reappear (Bordo 1993 page 72).

5. The Breakdown of Bretton Woods 1968 to 1971

A key force that led to the breakdown of the BWS was the rise in inflation in the center country, the United States, beginning in 1965. Until that year Federal Reserve Chairman William McChesney Martin had maintained low inflation. It also attached high importance to the balance of payments and the US monetary gold stock in its policy deliberations (Bordo and Eichengreen 2013). Beginning in 1965 the Martin Fed shifted to an inflationary policy which continued until the early 1980s and in the 1970s became known as the Great Inflation .See figure 4. The shift in policy reflected the accommodation of growing fiscal deficits—a strategy referred to as fiscal dominance (Leeper and Walker 2011.). Rising deficits reflected the increasing expense of the Vietnam War and Lyndon Baines Johnson's Great Society. One way that fiscal pressure led to accommodative monetary policy was by the use of "Even Keel" policies under which the Federal Reserve would stabilize interest rates during Treasury funding operations. This operation prevented the Fed from tightening monetary policy to offset inflationary pressure (Meltzer 2010, Humpage 2015).

The Federal Reserve shifted its stance in the mid 1960s away from monetary orthodoxy in response to the growing influence of Keynesian economics in the Kennedy and Johnson administrations with its emphasis on the primary objective of full employment and the belief that the Fed could manage the Phillips Curve tradeoff between inflation and unemployment (Meltzer 2010 Vol 2 Book 1) In addition, as the inflation rate ratcheted up, fear that the tight monetary policies required to reduce it would lead to rising unemployment and a political backlash against the Fed made first Chairman Martin and then Arthur Burns, his successor, reluctant to stop it (Bordo and Orphanides 2013. Introduction)

Increasing U.S. monetary growth led to rising inflation. Rising U.S. inflation then spread to the rest of the world through growing US balance of payments deficits. A well understood transmission mechanism was via the classical price specie flow mechanism supplemented by capital flows .This led to growing balance of payment surpluses in Germany and other countries. The German monetary authorities (and other surplus countries) attempted to sterilize the inflows but were eventually unsuccessful leading to growing inflationary pressure. (Darby, Lothian,et al 1983).

In addition to the rise in US inflation as a source of strain on the international monetary system, world gold production leveled off in the mid 1960s and even declined in 1966. While at the same time private demand for gold increased leading to a drop in the world monetary gold stock after 1966. Beginning in 1966, the Gold Pool became a net seller of gold.

After the devaluation of sterling in November 1967 pressure mounted against the dollar via the London gold market. From December 1967 to March 1968, the Gold Pool lost $3 billion in gold with the U.S. share at $2.2 billion (Solomon 1976, Bordo, Monnet and Naef 2017). In the face of the pressure the Gold Pool was disbanded on March 17, 1968 and a two-tier arrangement put in its place. The monetary authorities of the Gold Pool agreed neither to sell nor to buy gold from the market and would transact amongst themselves at the official $35 price. As a consequence, the link between gold production and other sources of gold and official reserves was cut. In the following three years the U.S. put considerable pressure on other monetary authorities to refrain from converting their dollar holdings into gold.

The world had switched to a de facto dollar standard. However gold convertibility still played a role. Although the major industrial countries tacitly agreed not to convert their outstanding dollar liabilities into U.S. monetary gold the threat of doing so was always present. The system also developed into a de facto fixed exchange rate system. Exchange rates became more rigid out of the fear of the consequences of members allowing them to change. Moreover because of increased capital mobility the pressure for altering the parities of countries with persistent deficits and surpluses became harder to stop through the use of domestic policy tools and the aid of international rescue packages.

1968-1969 was characterized by currency crises in France and Germany leading to a devaluation in France and a temporary float and then revaluation in Germany taking the pressure temporarily off the U.S..In 1970 U.S. interest rates fell in response to rapid monetary expansion and the U.S. balance of payments mushroomed to $9 billion. The deficit exploded to $30 billion by August 1971. The dollar flood increased the reserves of the surplus countries auguring inflation. German money growth doubled from 6.8 % to 12% in 1971 and the German inflation rate increased from 1.8% in 1969 to 5.3% in 1971 (Meltzer 1991, page 73). In April 1971 the dollar inflow to Germany reached $3 billion. On May 5 1971 the Bundesbank suspended official operations in the foreign exchange market and allowed the deutsche mark to float. Similar actions by Austria, Belgium, the Netherlands and Switzerland followed (Solomon 1976, page 179).

In April 1971, the U.S. balance of trade turned to a deficit for the first time. The decision to suspend gold convertibility by President Richard Nixon on August 15 1971 was triggered by French and British intentions in early August to convert dollars into gold. The U.S. decision to suspend gold convertibility ended a key aspect of the Bretton Woods System. The remaining part of the system, the adjustable peg disappeared by March 1973.

The Bretton Woods system collapsed for three basic reasons. First inflationary US monetary policy was inappropriate for the key currency country of the system. Although the acceleration of inflation from 1965 to 1971 was low compared to what happened in the 1970s, it was sufficient to trigger a speculative attack on the world's monetary gold stock in 1968, leading to the collapse of the Gold Pool (Garber 1993). Once the system had evolved into a de facto dollar standard after the collapse of the Gold Pool, the obligation of the United States was to maintain price stability. Instead it conducted an inflationary monetary policy that ultimately destroyed the system. Indeed the Bretton Woods System was based on rules. The most important of which was to follow monetary and fiscal policies consistent with the official peg. The U.S. violated this rule after 1965 (Bordo 1993 page 84).

Second, the surplus countries were increasingly unwilling to adjust and absorb dollar balances and revalue their currencies. This reflected basic differences in the underlying inflation rates that they were willing to accept. It also reflected growing productivity differences between Germany and Japan on the one hand and the United States on the other which changed real exchange rates (Marston 1987). The growing gap between the sovereign interests of the United States and the other major powers likely reflected the decline in U.S. power. At the same time as U.S. power declined relative to the continental countries European countries and Japan the G10 lost effectiveness and no other focal points of power emerged. The stage was set for a decentralized system.

Finally, the collapse of the Bretton Woods System was related to two major design flaws. The first was the gold dollar/ gold exchange system which placed the United

States under threat of a convertibility crisis. In reaction it pursued policies that in the end made adjustment more difficult. The second flaw was the adjustable peg. Because, in the face of growing capital mobility, the costs of discrete changes in parities were deemed so high, the system evolved into a reluctant fixed exchange rate system without any effective adjustment.

6 .**Conclusion**

The collapse of the Bretton Woods syatem between 1971 and 1973 led to the general adoption by advanced countries of a managed floating exchange rate system which is still with us. Yet this outcome (at least at the time) was not inevitable.[7] As was argued by Despres, Kindleberger and Salant (1966) in contra distinction to Triffin, the ongoing U.S. balance of payments deficit was not really a problem. The rest of the world voluntarily held dollar balances because of their valuable service flow—the deficit was demand determined. They viewed the U.S. as supplying financial intermediation services to the rest of the world. Europeans borrowed long –term capital from the U.S. because the U.S. capital markets were deeper and more efficient and interest rates were lower. In turn, Europeans maintained short-term balances in American banks because of a higher return. In their view the Bretton Woods System could have continued indefinitely .

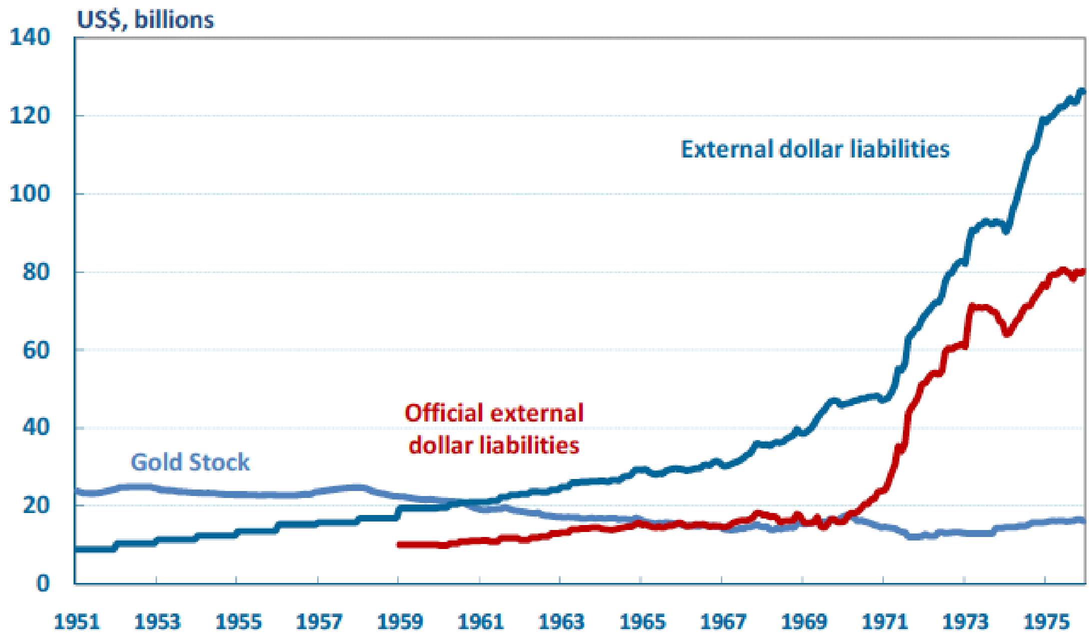
This of course was not the case, but although the par value system ended in 1973

[7] See Bordo and Eichengreen (1998)for an analysis based on a model of the global gold standard of how the life of Bretton Woods could have been prolonged.

the dollar standard without gold is still with us as McKinnon (1969, 1988, 2014) had long argued. Both private entities and official agencies hold dollars because of their superior attributes as money. This was the case in the 1960s when under the gold dollar standard and still is the case today with fiat money. The key requirement to maintain the pure dollar standard is for the Federal Reserve to follow a policy of credible monetary policy geared to price stability. In the 1970s the Federal Reserve's inflationary policy led to a shift out of dollar holdings in the rest of the world and culminated in a speculative attack on the dollar in 1978. Paul Volcker was appointed Chairman of the Federal Reserve to end the inflationary spiral and restore credibility. He succeeded in doing this by following a vigorous disinflationary policy which by the mid 1980s greatly reduced the inflation rate but at the expense of a serious recession in 1980-82. Since the mid 1980s the Fed has followed a policy to maintain credibility for low inflation and the international stature of the dollar has been more than fully restored (Eichengreen 2010).

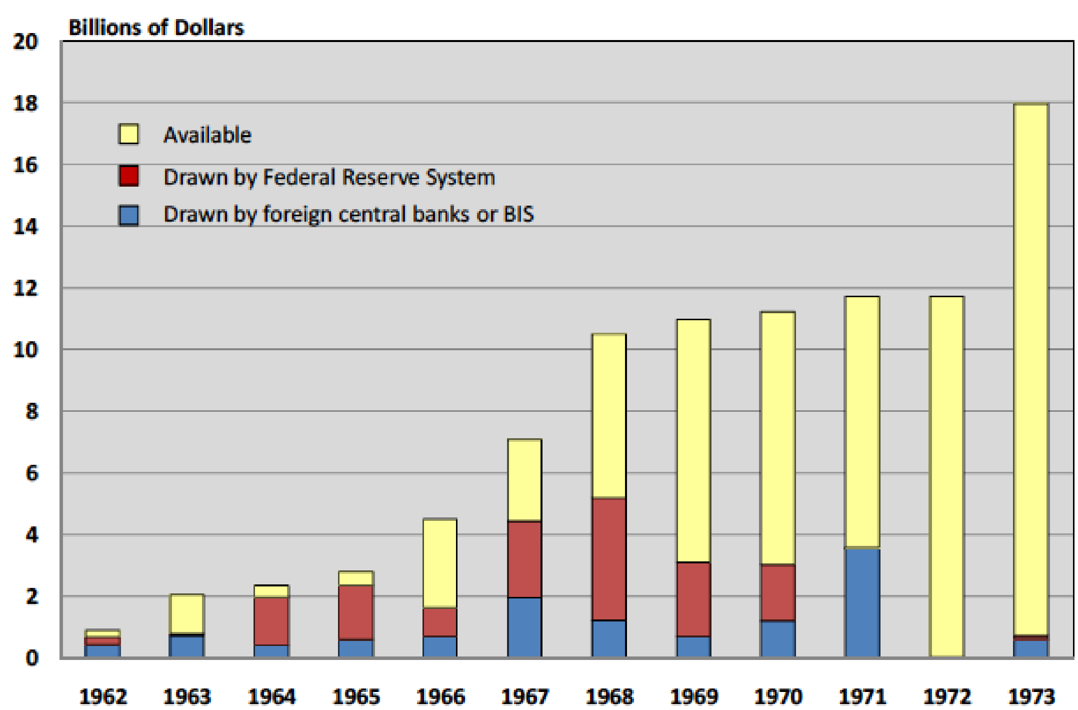
The dollar standard was resented by the French in the 1960s and referred to as conferring "the exorbitant privilege" on the U.S. and the same argument was made in 2010 by the Governor of the Central Bank of China. However the likelihood that the dollar will be replaced as the dominant international reserve currency in the foreseeable future seems remote. The alternative candidates are the euro and the Chinese renminbi. The euro is still in crisis and the likelihood that the Eurozone will ever be a secure and stable political and economic entity is doubtful. China is not yet financially developed and does not have the open financial system free from capital controls or the presence of the rule of law necessary to backstop a true international reserve currency. The dollar standard and the legacy of the Bretton Woods system will be with us for a long time.

Figure 1: U.S. Gold Stock and External Liabilities 1951-1975



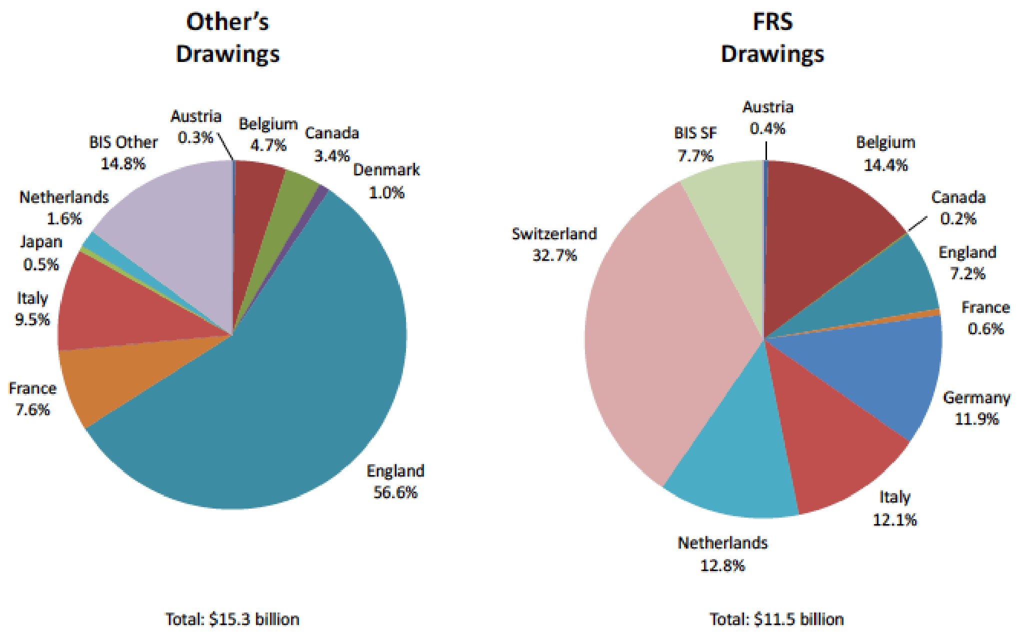
Source: Banking and Monetary Statistics 1941 - 1970. Washington D.C. Board of Governors of the Federal Reserve System. September 1976 Table 14.1, 15.1

Figure 2: Federal Reserve Swap Lines 1962 –1973



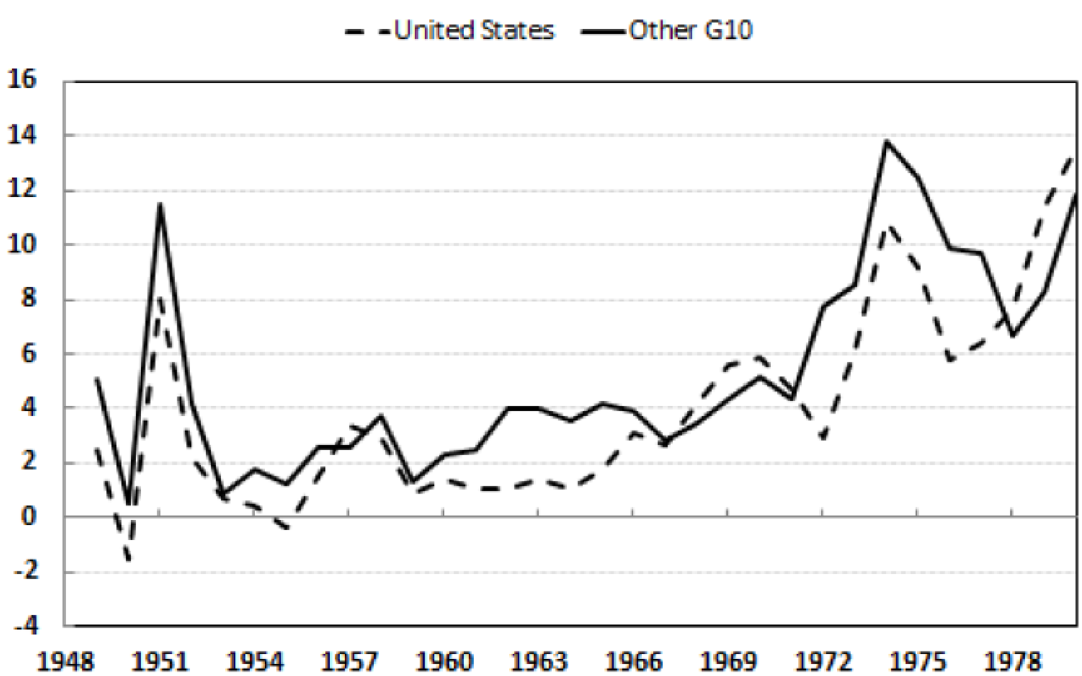
Source: Federal Reserve System

Figure 3: Composition of Drawings on the Federal Reserve Swap Line 1962 –1971



Source: Federal Reserve System

Figure 4: Inflation Rates



Source: U.S. Bureau of Labor Statistics, IMF (various issues).

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