

# Journal of Economics Library

[www.kspjournals.org](http://www.kspjournals.org)

Volume 9

June 2022

Issue 2

## The currency board debate of the 1940s-1960s

By Parth THAKKAR <sup>†</sup>

**Abstract.** The late 1940s to the 1960s featured a sustained debate about currency boards in underdeveloped (or, in today's parlance, developing) economies and their desirability compared to the alternative of central banking. Critics of currency boards found fault with them for the foregone cost of their "idle reserves," their implied deflationary bias, their lack of discretionary monetary policy, and their lack of a lender of last resort, among other things. Defenders of the currency board system argued that the criticisms were either incorrect or irrelevant. After carefully reviewing the debate, I opine on it, coming down mainly on the side of the defenders of currency boards.

**Keywords.** Currency board, Debate.

JEL. B27, E59, F33, N10.

### 1. Introduction

The development of Keynesian economics in the 1930s and 1940s and the prospect of approaching independence for many colonies after World War II provided the background for a debate about whether or not it was advantageous to replace colonial currency boards with central banks. About 30 economists participated in the debate. It took most of its examples from the experience of the British colonies, where most currency boards were located, and centered on four main issues:

1. *Cost of Reserves:* Many economists were critical of the 100 percent foreign reserve requirement of the currency board system. (For British colonial currency boards, foreign reserves were predominantly British securities or pound sterling bank balances lodged within big British banks.) Since it was highly unlikely that everyone in the currency board country would redeem currency notes and coins for sterling reserves all at once, the reserves were seen as "unnecessarily locked up" in foreign investments, when they could instead be used to finance local economic development. In other words, the reserves were seen as unnecessary loans to the British government—earned by exports—whose foregone costs were real resources that could be used to foster local economic growth.

2. *Deflationary Bias:* Because it was generally agreed that colonial money supplies were dependent on the balance of payments (namely, the current account balance), economists believed that the currency board system imparted a deflationary bias on the colonies, as it was unrealistic to expect persistent current account surpluses to keep pace with the needs of developing countries for expanding money supplies.

<sup>†</sup> George Washington University, USA.

✉. + 85287-41804 ✉. Pthakker965@gmail.com

## Journal of Economics Library

**3. Lack of Discretionary Monetary Policy:** Many economists also found fault with the passivity of the currency board system, specifically its inability to execute a discretionary monetary policy. Because a currency board cannot alter the monetary base at will, economists believed central banks to be more conducive to promoting economic growth through various tools of monetary policy.

**4. No Lender of Last Resort:** Finally, with the role of central banks as “bankers’ banks” and extending credit in times of need, many economists believed orthodox currency boards to be useless in responding to external economic shocks and addressing financial crises.

**Figure 1. Overview of debate**

For	Against
Issue 1: Cost of Reserves	
1. Mars (1948)	8. Wilson (1957)
2. Grove & Exter (1948)	9. Balogh (1958)
3. Exter (1949)	10. Nevin (1961) [2]
4. Hazlewood (1952, 1954a, 1954b)	11. Lomoro (1964)
5. “Analyst” (1953, 1954)	12. Loxley (1965) [5]
6. Newlyn & Rowan (1954)	13. Thomas (1965)
7. Niculescu (1954) [1]	14. Lampman (1967)
	1. Caine (1949)
	2. Blowers & McLeod (1952)
	3. Greaves (1951, 1953, 1954a, 1954b, 1957) [1]
	4. Earle (1954)
	5. King (1955)
	6. Lewis (1955)
	7. Katz (1956)
	8. Birnbaum (1957) [2]
Issue 2: Deflationary Bias	
1. Mars (1948)	1. Blowers & McLeod (1952)
2. Grove & Exter (1948)	2. Greaves (1954b) [3]
3. Exter (1949)	3. Earle (1954)
4. “Analyst” (1953, 1954)	4. King (1955)
5. Newlyn & Rowan (1954) [3]	5. Katz (1956)
	6. Olakanpo (1961)
	7. Drake (1969)
Issue 3: Lack of Discretionary Monetary Policy	
1. Mars (1948)	7. Rowan (1954a, 1954b)
2. Grove & Exter (1948)	8. Niculescu (1954)
3. Exter (1949)	9. Olakanpo (1961) [4]
4. Hazlewood (1954b)	10. Thomas (1965)
5. “Analyst” (1953, 1954)	11. Drake (1969) [4]
6. Newlyn & Rowan (1954)	
Issue 4: No Lender of Last Resort	
1. Mars (1948)	6. Rowan (1954b)
2. Grove & Exter (1948)	7. Watson & Caine (1956)
3. Exter (1949)	
4. “Analyst” (1953, 1954)	8. Balogh (1958)
5. Newlyn & Rowan (1954)	9. Nevin (1961) 10. Lomoro (1964)
	1. Greaves (1954b)
	2. Earle (1954)
	3. Sherwood (1959)
	4. Myint (1964)
	5. Drake (1969)

**Notes:** [1] Niculescu (1954) sympathizes with some of the claims that Greaves (1953) makes. [2] Nevin (1961) agrees with some of Birnbaum’s (1957) sentiments. [3] Hazlewood (1954a, 1954b), Newlyn & Rowan (1954), Nevin (1961), and Thomas (1965) critically support some of the claims that Greaves (1954b) makes. [4] Although proponents of the currency board system, Olakanpo (1961) and Drake (1969) mention some strong considerations in favor of discretionary monetary policies for developing nations. [5] Loxley’s 1965 contribution to the debate could not be retrieved from past archives, so a review of it from 1972 is discussed instead.

## Journal of Economics Library

This paper summarizes the debate, highlighting the main claims of all the economists involved. It also discusses later reviews of the debate and offers a personal interpretation of it. On the next page is a table that shows where the debate participants stood on the main issues. An appendix near the end of the paper offers an alphabetical list of the participants, with biographical details.

### 2. Cost of reserves

The opening blow in the currency board debate of the 1940s-1960s came from the pen of Austrian-British economist John Mars (born Hans Materschläger). In a long book chapter, “The Monetary and Banking System and the Loan Market of Nigeria” (1948, but apparently written two or more years before),<sup>2</sup> Mars raised a number of objections against the West African Currency Board, with the 100 percent reserve-backing requirement of the board being the first one. According to Mars,

A 100 per cent cover has never been a *sine qua non* of the West African currency system, simply because it is quite impossible for the whole of the West African currency to be presented for conversion into London sterling at any one time, since the West African colonies can never dispense entirely with the use of money. It is, therefore, quite safe for the quantity of the fiat currency to rise to the minimum amount necessary to finance local payments for domestic goods, services, and securities, and the hard core of hoarding, as there could not be any danger of a demand for redemption (p.188).

This analysis led Mars to conclude that the 100 percent exchange standard was actually costing Nigeria, in the form of foregone domestic goods and assets that could have promoted economic growth, and that the cost of the locked-up reserves was unaffordable for a “poverty-stricken country” like Nigeria, let alone a rich country (p.194). Mars went on to explain the process by which the West African Currency Board sacrificed Nigerian exports through its exchange mechanism (p.190), as well as offer an advance to the supporters of the board. Mars claimed that local currency in Nigeria was not “found money,” but “loaned money.” He adduced statistical evidence showing a fall in the volume of Nigerian currency from 1925 to 1934 (pp.192-193).<sup>3</sup> All in all, Mars began the currency board debate on a critical note—a note that would become a chorus in the years to come.

David Grove and John Exter (1948), economists at the Board of Governors of the Federal Reserve System, made similar claims with their analysis of the Philippines. Both were involved in advising the recently independent Philippine government in its effort to replace the currency board-like system established under U.S. colonialism. The Philippines passed a central bank

<sup>2</sup> Note that in days before the Internet, lags in publication and distribution of printed material meant that sometimes a paper written before another was published later, and authors were not always necessarily aware of the most recent contributions to a debate when they wrote.

<sup>3</sup> It might have been better to start with June 1928, the pre-Great Depression peak of circulation, rather than 1925. The Great Depression reduced circulation until it bottomed out in June 1934.

## Journal of Economics Library

law in 1948 and the central bank opened in 1949. Grove and Exter contended that “the 100 per cent reserve system has tended to immobilize needlessly a part of the official international reserves of [the Philippines]” (p.938). Exter made a similar argument in his *Report on the Establishment of a Central Bank for Ceylon* (1949, p. 4) to the government of Ceylon (now Sri Lanka). The country replaced its currency board with a central bank in 1950, two years after becoming independent from Britain, and Exter became the first governor.

In the 1950s, criticism of 100 percent reserve backing grew. Up first was Arthur Hazlewood, an Oxford University economist. Responding to Ida Greaves (1951), a lecturer at the London School of Economics, Hazlewood (1952, p.942) said that the currency board system imparted a “burden” of foregone imports on the colonies:

A Colony’s currency circulation can be expanded if sterling earned by her exports is paid into the currency authority. Colonial currency obtained in this way may be treated as an import paid for with export earnings. Other imports have to be given up if an increased currency supply is to be acquired.

Whereas the income earned from exports constituted a claim on imports, the claim was no longer enforced while currency was in circulation, thereby making the holders of the currency “lenders abroad in sterling”—sterling that could have been used to buy goods and services (p.943). In short, “Sterling earnings, which would otherwise be available for purchasing imports of goods and services, are tied up in the reserves of the currency authority” (p.944).

In 1954, Hazlewood expanded on his argument from 1952. He created his own version of a Mars-like explanation of the process by which the currency backing system made the colonies forgo imports they could have otherwise bought for internal development. He also reiterated “that the colonial currency system reduces the funds available to a colony for external expenditure” (Hazlewood 1954b, p.295).

The anonymous (possibly Jamaican) “Analyst” (1953), in an article on “Currency and Banking in Jamaica,” repeated the argument that the foreign reserves backing the notes and coins in circulation were immobilized and could not be used for purchasing domestic goods or services (p.47). “Analyst” proposed reducing the 100 percent foreign reserves of Jamaica’s currency board to 50 percent, partly because “It is fairly certain that at no time will all the currency be required to be redeemed in sterling” (p.51).

The next year saw the publication of a book by British economists Walter Newlyn and David Rowan (1954, p.202), *Money and Banking in British Colonial Africa*. In it, they agreed with the claims Mars and “Analyst” made, saying that “since it is obvious that the whole money supply cannot be presented for conversion into sterling, it is plain that the existing monetary system entails the maintenance of reserves at what is, in some sense, an uneconomically high level.” They called over 50 percent of the backed balances “excessive reserves,” proposing that these idle balances be released

## Journal of Economics Library

into the colonies as a fiduciary issue. This proposal was similar to that of "Analyst."

World Bank economist Paul Wilson (1957) and Hungarian-British economist Thomas Balogh (1958) made some fleeting remarks about the "asymmetry of reserves" and "the inability of the colonies to use their accumulated sterling reserves for their own economic development" (Narsey 2016, pp.209, 216). In 1961, Welsh economist Edward Nevin (1961, pp.5, 11-12) published an important contribution, *Capital Funds in Underdeveloped Countries*. In it, he said:

The essential fact about the sterling exchange system, however, is that the resources sacrificed by the community in increasing its holdings of currency are not retained within the same community; the requirement that the London sterling—United Kingdom or other Commonwealth government securities—be held against additional issues of currency notes means, in effect, that overseas governments acquire the command over resources which the colonial community has sacrificed in order to hold currency...Whether it is fully convertible or not, therefore, to some varying degree the reserves held as backing for the currency represent a potential source of finance for economic development.

Nevin (p.15) asked his reader to consider two sets of risks—the risk of repatriating the reserves and the risk of retaining the sterling exchange system (and thereby retarding economic growth). Since the former risk had a high reward and the latter a reward only if all the currency notes were presented for conversion into sterling, Nevin concluded that it was desirable to replace currency boards with central banking.

Others added fuel to Nevin's fire in the mid 1960s. Makerere University (Uganda) economist George Lomoro (1964, pp.6-7), in a balance sheet analysis of the East African Currency Board, observed that a 100 percent reserve cover was only attained in 1950 (because of a policy decision the board made at the start of its life regarding the exchange of silver coins). He further stated that the income the board generated with the reserves being invested in foreign assets had been meager compared to if they had been invested in domestic assets. Lomoro's sometime Makerere colleague John Loxley (1972, p.46), in a review of his own 1965 dissertation, confirmed that the British government forced the colonies to engage in a "surplus drain" by investing their reserves overseas, thereby hampering the development activities of the colonial governments. Guyanese economist Clive Thomas (1965, p.20) stated much of the same, saying that

In a Currency Board system a transfer of resources to the public sector does not take place. To the community as a whole, in the same way as to an individual in any type monetary system, a cost is involved in holding currency, and in increasing the existing currency issues. This cost is created by the statutory requirement that domestic currency issues must be backed with foreign securities.

Thomas went on to echo several economists before him, saying that the currency reserves were external loans to the British government (with the cost of foregone expenditures on domestically produced and imported

## Journal of Economics Library

goods and services) and concluding with the idea of replacing the 100 percent backing system with the “harmless” alternative of a fiduciary issue (pp.21, 27).

American economist Robert Lampman (1967) provided the final salvo in this part of the currency board debate, backing those that preceded him with the first growth accounting study of the Philippines. In it, he concluded that a repatriation of the currency reserves would have benefitted the Philippines in the late 1940s in terms of real GDP growth (Treadgold 2005, pp. 136-137).

### 2.1. The rebuttal

Of course, a debate is incomplete without a rebuttal. Sir Sydney Caine, a distinguished British public official, wrote a series of articles on the monetary systems of the British colonies for the London magazine *The Banker* under the pseudonym “Special Correspondent.” In them, Caine (1949, p.96) reminded the critics that the theoretically “idle” reserves were not idle in practice—rather, they were being invested in interest-bearing securities, thereby earning a profit for the colonial governments. To add,

[T]he income from such securities goes to strengthen the general financial position of the Government concerned. By doing so it helps that Government to raise other loan moneys. In theory, a colonial government might deliberately devote the whole of the income it draws from currency investments to paying interest on an equal amount of other borrowing, and so might place itself substantially in the same position as if it had borrowed the currency funds direct, i.e. had created a fiduciary issue.

American banker George Blowers and his Canadian economist colleague Alexander McLeod (1952, pp.458-459) refined Caine’s argument and put it in the context of Libya, whose currency reform they advised. They remarked that if a country like Libya had adequate access to foreign capital, then the borrowed foreign capital plus the reserves invested in foreign securities would generate, at most, a moderate development cost that could be offset in the future. The invested reserves could help Libya in the future if foreign capital became less readily obtainable. Finally, W. Arthur Lewis (1965, pp.246-247) similarly declared that

The surplus currency backing [of colonial currency boards] is invested in gilt edged securities, which yield the long term rate of interest, and if these colonies needed money they would have no difficulty in borrowing in London at similar rates. In so far as this is true, the 100 per cent backing does not handicap development.

Defenders of the currency board system rebutted the critics with the idea of seigniorage. In their minds, “excess” reserves in the currency board system were not wasted; rather, they were being invested in interest-bearing securities that would help colonial economic development in the future. If the surplus reserves were immediately invested in high-risk domestic assets or used to purchase domestic imports, they would wither away into oblivion as one-time purchases. More importantly, they would no longer be available

## Journal of Economics Library

to earn interest, which could prove to be fatal down the road if a colony desperately needed to support long-term growth.

Ida Greaves, a Barbadian who was perhaps the strongest proponent of the currency board system from the 1940s to the 1960s, went head-to-head with John Mars in 1951, which Hazlewood later commented on in 1952 (see above). Greaves (1953, p.921) then took a swing at Hazlewood. Regarding the cost of reserves, Greaves claimed that there was no burden on the colonies, and that the conclusion in Hazlewood's 1952 work was a "serious misapprehension." The mere existence of currency funds did not alter the purchasing power of the colonies. The colonies could use their currency notes to purchase whatever they wanted—whether that be imports or assets—and if they wanted hard sterling instead, all they had to do was convert their notes through the currency board. In Greaves' view, Hazlewood was mischaracterizing the currency reserves as external investments and the currency notes as savings claims; Greaves thought of the currency notes as colonial income (p.921). Given the high cost of imports during the time, the safer bet of investing the sterling reserves in interest-bearing securities, and the stable expansion of the West African Currency Board since 1940, Greaves deemed Hazlewood's arguments "palpably absurd" (p.921).

Hazlewood (1954a, pp.616-617) jabbed back at Greaves, saying that her assertions lacked merit and were out of the context of the currency expansion process he had described earlier. Barbu Niculescu (1954, pp.618-619), despite conceding that both Greaves and Hazlewood were "right in their main arguments," sided with Hazlewood. He said that Greaves treated the currency issues as notes of income held by *individuals* of a colony, whereas Hazlewood treated them as claims on earned reserves held by the *community*. Niculescu ultimately agreed with Hazlewood, saying that the currency issues were loans to the British government, or more specifically, "a postponement by the colonies, and hence by their inhabitants, of their claims to goods and services which they could purchase from the United Kingdom." Clive Thomas (1965) documented the entire Hazlewood-Greaves-Niculescu mini-debate and added his own piece at the end, criticizing Greaves for not realizing a genuine cost of reserves (p.23).

Greaves, unfazed, went on to deny repeatedly that the reserves were ever idle or stagnant, rejecting that the reserves were loans to the British government and refuting that economic development was ever hindered via the reserve-backing system (Greaves 1954a, 1954b, 1957). She mentioned that one of the key purposes of the system was to maintain currency and credit stability in the colonies, which was especially important to them after the Second World War. She also mentioned the advent of international branch banking—which would act as a deterrent to the cost of reserves "problem"—as well as the idea of if funds were released into the colonies as fiduciary issues, high domestic prices would make the import purchases "not worth it," or worse yet, denude the currency boards of their funds in desperate times. Greaves said that if a fiduciary issue absolutely *had* to be created, it

### Journal of Economics Library

should not exceed 33 percent of the notes and coins in circulation. Finally, Greaves contended that the colonial governments already had functional domestic development projects in place with the reserve-backing system in mind, whether that involved borrowing loans from overseas, having development companies come in and hold interventions, or running surpluses. Add to that the seigniorage that the invested sterling reserves would yield, and considerable long-term growth already hung in the balances for the colonies (Greaves 1954b, 8, 14-15, 20).

Arthur Earle (1954, pp.99, 103), a Canadian businessman and economist, debunked "Analyst's" statistical analyses and went tusk-to-tusk with "Analyst" on the cost of reserves. Earle said that Jamaica needed to maintain the current monetary system in order to ensure the future exchangeability and rate stability of its currency against at least one other foreign currency (1954, p.99). Regarding "Analyst's" proposal to make 50 percent of the reserves a fiduciary issue, Earle remarked archly that "the purchase of local Government securities is not an untried method of monetizing fiscal debt" and could go awry in adverse circumstances. In a rejoinder, "Analyst" (1954, p.107) noted the "ancient and honorable lineage" of fractional reserves and remarked, "If [the 100 percent liquid reserve-backing requirement] were so, banking would never have started" (p.107).

Concluding the first bout of the currency board debate were three defenders of the currency board. Frank King, an American economist connected with the University of Hong Kong, called out Niculescu, saying that the reserves used as backing for the currency notes were not sterling loans to the British government, but rather parts of a "balanced investment portfolio." Additionally, 100 percent, in King's eyes, was not an egregiously high number at all. King went on to mention that several currency boards—including the Malayan and Hong Kong currency boards—already had facilities within them that allowed for modest holdings of local assets without damaging the reserve-backing system, so the current monetary structure need not be changed. Although King conceded that some portion of the sterling balances could not be used for imported goods, he did not believe that should warrant a move away from the 100 percent system. The most important point King made in his article was that under the currency board system, "In British East Asia, no government project has as yet suffered from inability to use currency fund sterling assets." This was to say, economic growth had not been hampered by the alleged "cost of reserves problem," as governments had been able to withdraw and convert reserves into currency notes and coins to structure domestic development projects (King 1955, pp.719-720).

Samuel Katz (1956, pp.289-190), an economist at the Board of Governors of the U.S. Federal Reserve System, made comments in a similar vein. He brought up the Rhodesian and Gold Coast currency boards, clarifying that their sterling balances had not been locked up in the slightest. Nor were their balances in reserve "excessive" by any means.

## Journal of Economics Library

Eugene Birnbaum (1957), an American staff economist at the International Monetary Fund (IMF), capped the cost of reserves debate by disputing the recommendation that Newlyn and Rowan made in 1954 to reduce foreign reserve backing of the currency to 50 percent. Through a statistical analysis, Birnbaum confirmed that Newlyn and Rowan had overestimated the amount of reserves that should actually be considered “excess” in the 100 percent reserve-backing system. Birnbaum added that the net cost of these actually-excessive reserves was small.

### 2.2. Who was victorious?

The cost of reserves debate—and the entire currency board debate, for that matter—was not as black and white as dividing participants into supporters and defenders of the currency board system and simply *arguing*. Many critics had favorable things to say about the system, and many proponents had their reservations about the system; thus, the debate at times was nuanced. For instance, Grove & Exter (1948), Exter (1949), “Analyst” (1953), Newlyn & Rowan (1954), Nevin (1961), Thomas (1965) and Loxley (1965) all listed several advantages of currency boards in their works, the most notable ones being that currency boards maintain currency stability, eliminate balance of payments problems, and prevent highly inflationary periods (assuming that the anchor currency is fairly stable). Hazlewood (1954a) commended Greaves on some of the inconsistencies she pointed out in his writing, and Nevin (1961) agreed with Birnbaum (1957) on the actual cost of reserves. Finally, although they were proponents of change, Niculescu (1954) and Hazlewood (1954b) demonstrated hesitancy in proposing changes to the currency board system. Niculescu (1954, p.619) concluded his remarks with uncertainty as to what a proper modification of the currency board should be, and Hazlewood (1954b, p.314) concluded by stating, “A departure from the ‘100 per cent reserve currency’ would also be risky. But ‘nothing venture, nothing win.’”

That being said, the cost of reserves debate did have an implicit winner. Even though many of the claims against currency boards were made on a purely theoretical level, with the introduction of central banks in countries such as the Philippines and Ceylon, an amendment that the British government made in 1954 allowing colonial currency boards a fiduciary issue of up to 20 percent, and the petering out of the debate from the supporters’ side after 1957, the opponents of the currency board system seemed to have won the first bout of the currency board debate of the 1940s-1960s.

## 3. Deflationary bias

## Journal of Economics Library

John Mars again led debate on the deflationary bias with his chapter "The Monetary and Banking System and the Loan Market of Nigeria" (1948). After describing his views on the cost of reserves, he contended that the increments and decrements in the currency issue were entirely dependent upon fluctuations in external economic forces, such as the balance of payments:

Thus it appears that, operating in a situation where the terms of trade between primary and secondary industries have been continuously deteriorating, the 100 per cent sterling exchange standard has had a deflationary effect on the Nigerian internal price level. (p.199)

Mars said that Nigerians' high propensity to consume imports aggravated this deflationary pressure, lamenting that a poor country like theirs should have its prices and incomes subject to such unexpected shifts in international trade and lending. Mars concluded his thoughts on the deflationary bias with a prediction that the West African Currency Board would make it "quite impossible to deal with the aftermath of war-time inflation except by a drastic deflation via changes in the balance of payments." He explained that as Nigerian imports would increase after World War II, there would be a drop in local currency circulation, and thus, a rapid fall in domestic prices, incomes, and production (pp.201-202).

Grove and Exter (1948, p.939) independently echoed Mars' sentiment about the automatic relationship between the currency issue and the balance of payments, asserting that

When a system requiring a 100 per cent reserve against the note issue is applied to a growing economy, it may logically be expected to impart to it a consistent deflationary bias. In order to create the larger money supply required for an increasing population and an ever-expanding domestic trade, it would be necessary for the country to have a persistently active balance of payments, which in itself would be a costly luxury for an underdeveloped economy.

Exter (1949, p.5) later elaborated on this notion, saying that other than maintaining a persistent surplus on current account, a colony could counteract deflationary pressures by borrowing abroad. However, incurring foreign debts in order to stimulate domestic expenditures made no economic sense.

"Analyst" (1953, pp.48, 50) also chimed in, saying, like Mars, that colonial money supplies had been unduly restricted in the past by currency board reserve requirements, and that increased domestic expenditures on imports would undoubtedly have a deflationary effect on the colonies. This deflationary effect could be offset by increased export prices, but all in all, the money supplies did not keep up with what the colonial economies required.

Newlyn and Rowan (1954, p.157) said that increased imports would ultimately lead to a persistent deficit in the balance of payments, creating a deflationary bias. This claim, in addition to the alleged high cost of the 100 percent reserve-backing system, compelled each of the preceding five

economists—and others—to advocate discretionary monetary policy, which is the subject of Section 3.

### 3.1. The rebuttal

The first to dispute the deflationary bias claim were Blowers and McLeod (1952, pp.456-458). In their IMF-sponsored report proposing a currency board to unify the currency of post-Second World War Libya, they wrote, "We emphatically recommend that the reserves of 100 per cent in foreign exchange be maintained for the new Libyan currency." They bluntly said, "The 100 per cent reserve system is in this sense noninflationary, or even anti-inflationary, but it is not deflationary." They explained that the money supply a country *needed* was entirely dependent on public demand, i.e., the sum of the cash balances the general population was willing to hold at a given juncture. Thus, any change in the money supply or currency circulation would necessarily produce enough savings for the juncture, irrespective of the backing.

Greaves (1954b, p.20), a currency board stalwart, took a more empirical tack, mentioning that raw material prices, personal savings, development plans, external loans, civil services, and incomes had all increased since the war. In other words, prices in the colonies had actually inflated under the currency board system, contrary to worries about deflation.

Earle (1954, p.101) countered "Analyst" in this matter as well. Earle noted that there were ways to increase the domestic money supply other than running a surplus on the current account:

To the extent that it is financed by importations of capital or creation of deposits by banks an increase in the local money supply is clearly involved. If I am correct in thinking that the money supply made up of Jamaican bank deposits plus currency is really only working capital with a large additional amount of liquid resources held in sterling then it is probable also that the channeling of local free capital into increased domestic production would also force an addition to the apparent money supply by causing conversion of sterling into Jamaican pounds.

King (1955, p. 719) likewise observed that an increase in the money supply could also be "affected by a mail transfer from abroad through the facilities of a bank or by a loan made locally by a bank." In other words, currency was not the only component in the colonial money supply.

"Analyst" (1954, p. 108) returned fire, writing that

It has been repeated *ad nauseam* in studies of the gold standard and of all 100 per cent backed money that they suffer from an "inherent bias toward deflation" since when gold or the superior currency is lost as a result of trade or capital movements the local currency must be contracted; whilst when gold is gained there is no obligation to issue an increased amount of currency. This compulsory deflation arises from the vagaries of trade and is largely unconnected with the state of the home economy.

The American Samuel Katz, the Nigerian J.O.W. Olakanpo, and the Australian Peter Drake finished off this part of the debate. Despite conceding

### Journal of Economics Library

that the money supply was “mechanically related to the balance of payments,” Katz (1956, pp.290-291) explained that there still was monetary flexibility in colonies with currency boards. For example, increases in the money supply could be induced by growth in deposit banking, something that happened in South Rhodesia (now Zimbabwe) until 1952. Of course, in regions that lacked extensive deposit banking, such as the Gold Coast (now Ghana), deflationary pressures could be augmented, but that was not the fault of the currency board, which was only in charge of the note issue.

Olakanpo (1961, p.397) disputed the automatic link between the money supply and the balance of payments. He said that as commercial banks had no backing requirement like the currency board did, they could increase the money supply by fostering increased liquidity, reflected in their net overseas assets, resulting from export surpluses:

The increase in their external assets in this case amounts to an increase in cash reserves (since the risk of exchange rate fluctuations is minimal under the currency board system). Under a fractional reserve system, this increase will enable them to increase their domestic assets until a proper proportion of cash reserves to deposits is restored, given the availability of demand for bank credit.

Although this increase would not be entirely independent of the balance of payments, it was another way to think about increasing the money supply rather than approaching it from the current account perspective.

Drake (1969, pp.57, 60) culminated the deflationary bias debate on a similar note, remarking that commercial banks had the power to adjust the level of their loans, advances, etc. He also observed that a government would be able to alter the total money supply independently of a currency board, if it had enough reserve funds to move around (for instance, from abroad to within the local banking system). Finally, Drake reminded his readers that “It is only necessary to hypothesize growth of national income without any simultaneous surplus in the balance of payments.”

#### 3.2. Who was victorious?

Before the late 1960s, it was already apparent to several economists that changes in the colonial money supply could be induced by changes on capital account, not just on current account. In fact, some critics of the currency board system—including Hazlewood, Newlyn and Rowan, Nevin, and Thomas—actually sided with supporters of the currency board on this matter. For instance, Hazlewood (1954b, p.302) debunked “Analyst,” saying that:

Various critics have alleged that the present system has a deflationary bias which acts as a brake on economic growth. Unfortunately, the matter is not so straightforward as this passage, at first sight, makes it appear to be. “Analyst’s” argument pays no attention to the process

whereby in a less rigid monetary system, money supply could be expected to increase to handle an increased volume of trade.<sup>4</sup>

#### **4. Lack of discretionary monetary policy**

The most fundamental part of the currency board debate concerned rules versus discretion in monetary policy. With discretionary policy, colonial money supplies, interest rates, consumption, investment, and economic growth would—so the argument went—be structured to adjust to the colonial economy's needs, rather than to what was going on in London. And what better than a central bank to implement discretionary monetary policy?

John Mars (1948, pp.204-206) suggested that the cost of holding West African Currency Board currency would be greatly decreased if “the sterling securities equal to the contingent profit on the nickel bronze coins could be handed over to the four [member] West African governments to be used at their discretion. The most profitable use they could make of them would, of course, be to buy up part of their outstanding public debt in the market.” An alternative measure would be to reduce the 100 percent reserve-backing system to a 10 percent reserve-backing system, with 90 percent being a fiduciary issue. Mars claimed that this “managed sterling exchange standard currency” would have benefits beyond solving both the cost of reserves and deflationary bias problems. Specifically, discretionary management of West African currency would allow member governments to increase public works programs as well as induce changes in domestic interest rates (thus, investment) in order to pursue an anti-cyclical monetary policy.

Grove and Exter (1948, pp.938-939) remarked that the Philippine monetary system had long been hampered from reaching its full potential by the absence of a solid credit market, mainly due to the bulk of monetary payments in the Philippines being made in cash rather than check and due to the high propensity to import. They claimed that these restrictive effects were exacerbated by a lack of a central bank and discretionary monetary policy:

This became particularly apparent when the Government was faced with a budgetary deficit last year; it was unable to sell its securities because of the absence of a securities market, and was unable to get adequate accommodation from the banks because of their limited credit potential.

With the Philippines having achieved independence and weaning itself off American aid, a central bank with discretionary monetary policy powers became very important, in their view.

Exter (1949, p.4) expanded on these ideas in the context of Ceylon. He echoed Grove, saying that the currency board was too limited in terms of its ability to extend credit to meet the growing needs of an expanding economy, and that

<sup>4</sup> However, Hazlewood (1954b) did agree about the link between the colonial currency supply and the balance of payments.

## Journal of Economics Library

A central bank ordinarily has similar authority to issue its notes and coins against assets in foreign exchange, but most central banks have far more power in monetary matters than the present Currency Board. For instance, they ordinarily issue currency, and create deposits, against domestic as well as foreign assets. But what is even more significant, they have powers to control the expansion and contraction of credit by the commercial banks (p.2).

Others also chimed in on this matter. Hazlewood (1954b, pp.301, 303) saw discretionary monetary policy as a potential stabilizer of balance of payments problems in the colonies, although he acknowledged the potential dangers arising from blunders by inexperienced policy makers. "There should be a monetary authority able to stimulate the expansion of bank money when real output is increasing, itself standing ready to satisfy any consequent increased demand for currency," he said. Niculescu (1954, pp. 618-619) wrote that it would be worthwhile to consider fiduciary issues in the colonies that could immediately be employed for local investments or loans to the government.

"Analyst" (1953, p. 45) presented a case study of Jamaica, claiming that its dependent monetary policy had caused it to apply measures contradictory to its economic needs. When the Bank of England tightened in 1951-1952 to restore faith in the pound sterling, Jamaica tightened as well; however, the catch was that the British economy was at full employment whereas the Jamaican economy was already reeling. Inflexible monetary policy in Jamaica consequently cost the country any sort of economic stability for the next few years. To prevent a recurrence, "Analyst" favored discretionary monetary policy with a 50 percent fiduciary issue. "Analyst" specified that (1) the proposal would not abandon full convertibility into sterling; (2) it would shift credit lending and interest rates in accordance with the needs and times of the local economy, and (3) it was not an "invitation to turn on the printing presses" (p.52).

Newlyn and Rowan (1954, pp.269-271) said that central banks could participate in monetary management, i.e., influencing both the quantity and quality of credit, as well as act as government bankers by creating money, financing deficits, and offering advice on fiscal, exchange, and debt policies. They could do so by engaging in open market operations, varying discount rates, or adjusting commercial bank required reserve ratios. However, Newlyn and Rowan warned readers to proceed with caution—in highly dependent economies with underdeveloped banking and credit systems, the aforementioned powers could be rendered useless, even dangerous.

Olakanpo and Drake (1961), despite being supporters of the currency board system, provided suggestions to readers on how to effectively conduct discretionary monetary policy in the colonies. Olakanpo (1961) ventured ideas for countercyclical central bank policy. Central banks could implement policies to curb investment during booms, relaxing the curbs during busts. They could sell securities in expansions and buy during recessions. The main goal of a central bank was to smoothly influence the money supply growth

## Journal of Economics Library

in the right direction and control any excess liquidity. Compared to currency boards, in Olakanpo's words,

With this control device at its command, a central bank can, in appropriate circumstances, do much to free a dependent economy from the restraints which have sometimes been wrongly ascribed to the currency board system (pp.406-407).

However, Olakanpo and Drake (1969, p.65) did share Newlyn and Rowan's sentiments to a certain extent, concluding that things could initially go against plan in economies unfamiliar with securities markets. Thus, discretionary monetary policy was possible, but difficult.

Thomas (1965, p.32) was likewise a proponent of discretionary monetary policy in the colonies, and advocated central banking. He added,

A new national monetary authority with fuller powers and wider terms of reference can, however, slowly increase its influence over currency behavior through a more general increase of its own control over the behavior of all domestic monetary assets. While the extension of such control is fundamentally dependent on a structural reorganization of the economy, imaginative controls (e.g. advance deposits on imports) or new institutions (a government securities market) can help.

### 4.1. The rebuttal

Several participants countered. Blowers & McLeod (1952, pp.459-460) did not necessarily think that a discretionary monetary policy in the colonies would be harmful; they just thought it would not help. According to them, monetary expansion in places such as Libya would lead to exchange drains; the resources that would be released from abandoning the 100 percent reserve system would be equivalent to budgetary grant-in aid during one bad year, which was not significant. Moreover, Blowers and McLeod argued that depressionary effects in places such as Libya were not characterized by high unemployment, as they were in industrialized countries. Rather, they were characterized by falling real income due to bad harvests, so discretionary monetary policies would not do much to alleviate droughts or adverse export prices other than create alternative employment offers and spur the odd development project. In conclusion,

These considerations, together with the paucity of political experience and the lack of any past history of monetary and banking practice under domestic management, make us feel certain that inclusion of a discretionary element in the currency system is not desirable (p.460)<sup>5</sup>

Greaves (1953, p.64) took an empirical tack, observing that colonies with currency boards, such as Ceylon, had been economically expanding for years without discretionary action; thus, no change was needed. She also mentioned that there was no shortage of credit accommodation under the currency board system, at least in the West Indies.

<sup>5</sup> Blowers & McLeod (1952, pp. 459-460) also mentioned that "the psychological disadvantages of reducing the reserve below 100 per cent would far outweigh any practical advantages." Perhaps they felt that adding a fiduciary element would lead the colonies to perform economic actions that Blowers and McLeod were not confident with.

## Journal of Economics Library

The bank officials with whom I talked in the West Indies declared that they never considered the level of their own overseas balances in passing on applications for local credit...In practice, therefore, the volume of funds they held abroad was not a factor in determining the extent of local credit (p.46).

She also mentioned Newlyn's (1954) claim that except for seasonal requirements, most colonies ran current account surpluses.

The basis for all of Greaves' claims against a discretionary monetary policy was her view that the colonies were not independent economies dependent on the United Kingdom, but extensions of the British monetary system. She claimed that "While colonial investment and production are largely an overseas extension of the metropolitan system, colonial money is entirely a similar extension of the English monetary system" (1954a, p. 10). Thus, purchasing power for domestic expenditures was not lost, trade between Britain and its colonies was internal, and money supply growth was never an issue. Furthermore, if the colonies needed credit for any reason, they could always look for assistance to the London bank that acted as their government's financial agent.

Hazlewood (1954b, p.303) dismissed Greaves' claims as "besides the point." Rowan (1954b, p.266) lamented that Greaves did not even consider the possibility of an independent local securities market. Rowan (1954a, p.212) wrote, "The greater the degree of dependence, the greater the scope for monetary policy and the greater the need for effective central banking."

Arthur Earle and "Analyst" also debated this matter. We have already seen Earle's retorts to "Analyst's" proposal for a 50 percent fiduciary issue. Earle (1954, p.98) also wrote,

- (a) Can a dynamic monetary policy in the present state of knowledge give foolproof directions for dealing with the problems presented, whether these be cyclical, developmental, or political? (b) More particularly, and assuming that the answer to the previous question is in the affirmative, is it possible for an export economy of small size to pursue a monetary policy which is in any way independent?

In response to "Analyst's" analysis of Jamaica, Earle said that no matter how low the monetary authority were to drive interest rates, after some point, money would find no takers. He also said that many colonies lacked adequate access to the money market, making discretionary reflation out of reach for them, and that even if this were possible, related problems would surface, such as the redistribution of real goods and resources. Earle added, "No other country of comparable size and with a fully independent monetary system has succeeded in insulating itself from world price movements and trade conditions to my knowledge." Moreover, lower interest rates and a higher money supply could force a capital outflow from Jamaica, resulting in local inflation if unaccompanied by increases in real goods and services. The discretionary system would have no problems buying securities, but would have a hard time selling them without harming the colonial economies. For these reasons, Earle distrusted discretionary

## Journal of Economics Library

monetary policy in the colonies, and believed that national income should be enlarged through nonmonetary means (pp.99-104).

"Analyst" (1954, p.108) issued a "Rejoinder to Mr. Earle," which stated that

No one can quarrel with Mr. Earle's view that progress must be sought by an enlargement of the national income. But it seems just as wrong to exclude monetary policy in this process as to place sole reliance on it. A small country has to use all the tools which the advances in economic knowledge have shown to be usable and can only neglect at its peril one so important as monetary policy.

### 4.2. Who was victorious?

Considering that colonial currency boards were already allowed small fiduciary issues during this time period and that central banks with discretionary monetary policies already existed in a few developing countries, the critics of the currency board system seemed to have won this round of the currency board debate. Central banking was technically feasible even in countries without well-developed money markets, and the performance of the new central banks seemed promising.

## 5. No lender of last resort

In circumstances like those of the recent Great Depression, many economists wondered, who would rescue the already vulnerable colonial economies and maintain their stability during future financial crises, and how? Several participants answered that central banks, by acting as lenders of last resort and extending credit to colonial governments and commercial banks in times of need, would fill the void.

John Mars (1948, p.186) saw currency boards as indifferent toward whether the fluctuations in the volume of local currency were desirable, undesirable, avoidable, or unavoidable—a big problem. To solve it, he proposed a variety of solutions (see the previous section), but the most thoroughgoing one was a central bank. A Nigerian central bank could control the local money supply by varying commercial banks' required reserve ratios or advising the Nigerian government's fiscal policy when balance of payments disequilibria occurred. Most important, Mars thought that

[The central bank] might also have the power to be the lender of last resort to prevent insolvency of temporarily illiquid, but otherwise sound, banks. If a shortage of state or bank money were to arise the central bank should be authorised to lend to the deposit banks at agreed rates of interest, which would become the basic short-term interest rates ruling in the market. It might also be empowered to sterilise the inflow of West African currency into Nigeria in boom years by reducing the localised circulation through open market operations (p.212).

Mars obviously presupposed a well-developed Nigerian money market—one that could loan out gilt-edged securities at will for local economic development.

## Journal of Economics Library

Grove & Exter (1948, p.939) recognized that without a central bank, Philippine commercial banks had to rely completely on their own resources in times both good and grim. As a result, the Philippine commercial banks held larger excess reserves and more liquid portfolios than if central bank credit had been available.

In his solo Report on a Central Bank for Ceylon, Exter (1949, pp.6-7) claimed that now that Ceylon was no longer dependent on the Indian rupee and sterling for economic stability, a central bank was the more apt monetary authority. The central bank would alter the money and credit supply to the needs of the economy by controlling reserve requirements, interest rates, portfolio ceilings, capital-asset ratios, and letter of credit margins. Moreover, "As 'lender of last resort,' it will stand ready at all times to purchase or make loans against acceptable paper, and thus make the banking system almost invulnerable in time of crisis." Exter did not believe that open market operations would be of use in developing economies such as Ceylon, but thought that central banks could successfully use other tools to achieve their goals.

"Analyst" (1953) remarked that the central bank could be a government's bank of sorts, aiding and advising fiscal and monetary policy, especially in times of need. This turned out to be a major selling point of central banking in developing countries from the 1940s-1960s.

Newlyn & Rowan (1954, p. 269) enumerated several advantages of a central bank, including its ability to act as a government banker and a banker's bank, and to provide an ultimate source of liquidity. With regards to the last benefit, they mentioned that in addition to emergency deficit finance,

A central bank, prepared in such a case to purchase a wide range of assets from commercial bankers for cash, can maintain the liquidity of the commercial banking system and prevent a financial crisis from worsening an export-generated recession (p.272).

This system helped develop indigenous (locally headquartered) banks and securities markets, Newlyn and Rowan said, provided that they existed and were active.

Although Sir Sydney Caine was a supporter of the currency board system in the 1940s, he began to see the positive side of central banks in the mid 1950s, and with Guy Watson, an official of the Bank of England, actually proposed a report favoring a central bank in Malaya (the mainland of present-day Malaysia) (Watson & Caine 1956). In the report, they maintained that a central bank should perform the traditional functions of a currency board, such as currency issue and sterling cover, but also act as a government and banker's bank (Lee 1974, pp.1-2).

The report received serious scrutiny from supporters and critics of the currency board system alike. Thomas Balogh (1958, p.216) was one of the latter. He thought that their suggested system would ultimately sacrifice imports just as the currency board system did. Balogh proposed that the colonial monetary authorities emulate the Commonwealth Bank of Australia,

## Journal of Economics Library

which "helped, in circumstances not unlike those obtaining in Malaya, in financing development and in protecting the interests of small primary producers...It also enabled the Central Bank to put pressure on the banking system, prevented extreme fluctuations in the terms of trade, and the even tenor of economic development and on full employment" (p.23).

Edward Nevin (1961, p.26) claimed that a central bank, as a banker's bank and a government bank, was morally important for a developing economy to implement to maintain note issue stability and liquidity. Nevin did note, however, that "It is obvious that legal provisions in themselves can ultimately give no real protection to investors against the abuse of a central bank's powers," meaning that central banks could engage in issuing excessive credit, which could send the colonies down an inflationary spiral (p. 34). George Lomoro (1964, pp.4-5) identified several lacunae in the East African Currency Board system—such as it not being able to control commercial banks or act as government bankers—and proposed that changes be made immediately.

### 5.1. The rebuttal

Where there was Ida Greaves (1954b), there was a debate. She countered those who believed local central banks to be desirable as lenders of last resort by claiming that the Bank of England (or a local government bank other than the central bank) could serve as lenders of last resort in tough economic times. Rowan (1954b, p.267), however, thought this claim to be unrealistic.

Earle (1954, p.103) issued a retort to "Analyst's" (1953) idea that the central bank could be a government's bank, saying that the idea had disadvantages that outweighed the advantages—namely, turning the monetary authority into a "book-keeping institution as a channel of fiscal control." "Analyst's" rebuttal was identical to that mentioned in the previous section.

After Sherwood (1959) critiqued Watson and Caine (1956), Caine came out in 1958 with a minor defense, thus adding to his argument.

Much later, after Malaya had established a central bank to replace its currency board, Drake (1969, pp.64-65) also commented on Watson and Caine (1956). Drake wrote,

The Report's approach to the subject was cautious and tentative...[it] offered inadequate discussion of the future Central Bank's potential for promoting economic growth through monetary management, the development of money and securities markets, and guiding the sound expansion of banking and credit facilities. Similarly, because of its attention to conventional methods of monetary control, the Watson-Caine Report did not go anywhere near far enough in examining the possibilities for the use of less orthodox monetary weapons in the Malayan environment. Finally, the Watson-Caine Report failed to present sufficient quantitative analysis of the operations of the commercial banks.

## 5.2. Who was victorious?

The Great Depression and the Second World War were still fresh in memory. Independence was on the horizon for most British colonies. This situation brought about excitement and nervousness. The safety and security that proposed central banks offered as lenders of last resort were highly appealing. As a result, the currency board debate was won by the opposers of the currency board system. Upon seeing central banks replace currency boards across the globe from 1948-1969, including in his home country, Burmese economist Hla Myint (1964, pp.82-83) lamented,

When the central bank first took over the reserves from the currency board, the release of funds...was sometimes quite substantial, but it was a once-for-all transfer. How far the central bank can release funds for domestic investment on a continuing basis depends on how seriously it takes its duty of maintaining the external value of the currency. If, for instance, it wishes to achieve the same degree of stability of the external value of the currency as under the old system, it cannot hope to economize its reserves very much to release funds for other purposes. One of the hard facts of life is that the external world tends to have more confidence, other things being equal, in a national currency which is freely convertible into a well-established international currency than in one which is not convertible.

## 6. Additional topics brought up by the debate

Alongside the four main topics of the currency board debate, several additional ones surfaced.

1. *Size and Location:* Many economists believed that currency boards were only useful for small, open economies. Once these economies grew, the need for currency boards would be obviated.

2. *Inappropriate Anchor:* Moreover, many economists believed that countries with currency boards were linked to unstable anchor currencies. The pound sterling was chronically weak during the period of the debate, suffering a crisis in 1947 when the British government abruptly removed many exchange controls, devaluing in 1949 and 1967. The U.S. dollar also showed signs of weakness from the late 1950s onward.

3. *Proper Exchange Rates:* Several economists also debated whether fixed exchange rates under currency boards were appropriate. Many believed that flexible exchange rates were more effective in adjusting developing economies to changes in the terms of trade.

4. *Seigniorage:* All currency boards have been anchored to relatively low-inflation currencies. Since they prevent local governments from generating high inflation, they are unable to collect an inflation tax that would be significant for generating domestic government revenues. This was seen as problematic for several critics of the currency board system.

5. *Competitiveness:* Since currency boards were regarded to as passive "money changers," they were thought to be unable to keep a country's economy competitive by altering the exchange rate when necessary.

## Journal of Economics Library

6. *Political Sovereignty:* Because a domestic currency is a “clone” of a foreign anchor currency, and because of the four main arguments of the currency board debate, many people believed currency boards to be a continuation of colonialism in newly independent countries.

### 7. Later reviews of the debate (1970-2016)

After the early 1960s, debate on currency boards largely ceased as central banks replaced most currency boards. However, the debate of the 1940s-1960s was not entirely “dead.” Several economists reviewed it in light of subsequent developments in economic theory and history. Moreover, there still were proponents and opponents of the currency board system. In later reviews of the debate, Basu (1971), Lee (1974), Rudner (1975), Williamson (1995), and Narsey (2016) supported the move to central banks, whereas Ow (1985), Nelson (1987), Schuler (1992) (my initial jumping-off point for this paper), Hanke, Jonung, and Schuler (1993), Hanke (2002), Treadgold (2005), and Hanke and Schuler (1994/2015) offered evidence and arguments favorable to currency boards.

### 8. Thoughts on the debate

For one who has grown up in the 21<sup>st</sup> century and has not seen a time before central banking became nearly universal, reviewing the currency board debate of the mid 20<sup>th</sup> century yielded new perspectives. I offer the following thoughts.

*Regarding the Cost of Reserves:* I agree with the opponents of the currency board system in that it was highly unlikely that all the domestic currency be presented to the board for conversion into reserves at once. However, like King (1955), I do not believe that this fact warranted a move away from 100 percent foreign reserve backing. As Birnbaum (1957) mentioned, the amount of reserves deemed “idle” was overestimated; I put “idle” in quotations because, as Caine (1949), Blowers & McLeod (1952), and Lewis (1955) suggested, the reserves were earning interest. If used for expenditures on imports and domestic assets, they would have been one-time, final purchases that would not have earned any interest, and, as Greaves (1953) pointed out, may not have been wisely spent.<sup>6</sup>

My view on fiduciary issues in the colonies is that they would not have been especially helpful. The British government did allow colonial currency boards to create fiduciary issues of 20 percent or more in the mid 1950s, but the currency boards often did not do so (Schuler 1992, p.121). As Earle (1954) mentioned, at the core of the colonial currency boards was the idea of maintaining currency stability. The boards succeeded in delivering it, and

<sup>6</sup> It would have been more profitable to invest the reserves in domestic assets if the domestic assets’ risk-adjusted rates of return were greater than the foreign assets’ return. Domestic assets had higher yields but also higher risks. On balance, foreign assets seemed to yield safer and not much lower risk-adjusted returns. If the reserves were used to purchase imports, on the other hand, Treadgold (2005) provides a compelling argument that real GDP growth would not have been much different.

## Journal of Economics Library

given the lack of experience with discretionary monetary policy the colonies had, I do not know how much a fiduciary element would have amounted to. The psychological break from a 100 percent reserve-backing requirement could also have proven dangerous; with less and less currency being backed and with more and more credit being lent out, a 100 percent backing could have easily turned into a 0 percent backing, leading to currency depreciation and higher inflation. In short, although the currency board was a passive “money changer,” it was also a stabilizer, and kept all the colonies’ monetary systems balanced.

I am not too sure on the whole “individual” versus “community” purchasing power mini-debate that Hazlewood, Greaves, Niculescu, and Thomas engaged in. What I am sure of, however, is that even with the 100 percent reserve-backing requirement, the colonial governments still had the funds to cover domestic development projects and better the local quality of life. Thus, I did not see a significant cost of holding currency reserves. (As Narsey [2016] discusses, British colonial governments were also expected to hold in London assets for some months of anticipated government revenue, government savings bank assets, marketing board revenue, and other funds that in combination could greatly exceed currency board assets. There was less reason for holding those funds in London than for holding currency board reserves there.)

*Regarding the Deflationary Bias:* Persistent current account surpluses by design (rather than naturally emerging) are costly to run. Moreover, Exter’s (1949) logic makes sense: incurring a foreign debt to foster a domestic surplus is counterintuitive. However, the deflationary bias argument made too many extreme assumptions. The four major ones were that capital account surpluses were not possible, international branch banking was unlikely, deflationary pressures were the only ones surrounding currency boards, and deflations were frequent under the currency board system.

Ow (1985) does a good job of explaining how capital account transactions and international branch banking can increase the money supply of a currency board system despite deficits in the current account. Commercial banks have leeway in terms of their deposit-to-reserve ratios and can expand credit without an increase in currency board reserves or even their own reserves. Overseas traders can also invest in the colonies, and capital account transactions can increase the local monetary base. Perhaps the focus in the debate of the 1940s-1960s was a product of the circumstances of the time, in which most countries with central banks (though not most with currency boards) had exchange controls with their anchor currencies.

Moreover, the long-term experience of currency boards has been one of inflation, like their anchor currencies, not deflation. Deflation has occasionally happened, for instance in Hong Kong from 1998-2003 as a result of the East Asian financial crisis, but it has not necessarily meant disaster: Hong Kong’s real GDP per capita grew four of the six years of the deflationary period.

## Journal of Economics Library

*Regarding a Lack of Discretionary Monetary Policy:* Ow (1985) and Schuler (1992), along with some participants of the currency board debate, provide counterpoints to the idea that rule-bound monetary policy is necessarily worse than discretionary policy. The reason an orthodox currency board lacks discretion is that its goals are to maintain currency stability, credibility, and full convertibility. Ow points out that currency board systems can have some monetary policy tools, such as minimum reserve requirements and liquidity requirements for financial institutions, and interest rate ceilings and floors, if desired. More fundamentally, the theory of rational expectations and the Austrian School understanding of how markets generate information that is unavailable in nonmarket settings strengthen the case against supposing that even a purely benevolent central bank will have superior information or performance compared to a more rule-bound alternative.

*Regarding No Lender of Last Resort:* Financial crises were uncommon in the currency board system up to the time of the debate and have been uncommon since, raising the point of whether or not this criticism of the currency board system was realistic.

Greaves and others brought up the point that the government could act as a lender of last resort if the need arose. Add to that private, voluntary insurance deposits, international branch banking, and notice of withdrawal clauses (apparently present in some currency board systems but never widely invoked), and currency boards seemed to have tools to be well-insulated against financial crises.

Private, voluntary insurance deposits could protect depositors. It would be less of a burden on taxpayers than government insurance, and with incentives for maintaining solvency. International branch banking would allow illiquid banks to borrow from liquid ones, whether domestically or abroad, as well as to pool risks with foreign commercial banks.

*Regarding Size and Location:* Currency boards can be—and have been—implemented in economies big and small. A fairly large economy that still has a currency board today is Hong Kong.

*Regarding an Inappropriate Anchor:* It must be noted that the anchor currencies did maintain relatively low inflation and currency stability for decades, as did countries that linked to them under the currency board system.

*Regarding Proper Exchange Rates:* More flexible exchange rates have worked fairly well in a number of countries that formerly had currency boards. The leading example is Singapore, whose currency has appreciated over the years against the U.S. dollar and most other currencies while Singapore has become one of the world's richest economies. The cases where more flexible rates have led to depreciation and inflation, and even to extreme inflation, however, have been far more numerous. To give but a handful of examples, consider Argentina, Jamaica, Nigeria, Uganda, and Zimbabwe.

## Journal of Economics Library

*Regarding Seigniorage:* A mild inflation tax to support government revenues is appealing. However, once the 100 percent foreign reserve-backing system is abandoned, it is easy to fall into an inflationary spiral. Thus, as Hanke & Schuler (1994/2015) point out, while a currency board system may not yield the maximum amount of seigniorage every year, it will yield profits year after year without sacrificing monetary stability. An example of this is mentioned in Treadgold (2005), where he states that the Malayan currency board's average net return on assets from 1946 to 1965 was a meager, but stable 3.1 percent (p. 128).

*Regarding Competitiveness:* Hanke (2002) addresses the claim that a fixed exchange rate harms competitiveness, bringing up the example of Hong Kong. Hong Kong, for a number of years, had persistently higher inflation than its anchor currency countries, Britain and later the United States, because it had faster growth. Increasing productivity in Hong Kong justified the differential. Wages increased even faster than prices and living standards rose, all while maintaining impressive rates of economic growth.

*Regarding Political Sovereignty:* Just because a colony becomes independent does not mean it must change its entire monetary system. Since currency boards maintain the stability of a colony's currency—the economic pride of the colony, if you will—they could be considered *preservers* of national sovereignty, not extenders of colonialism. If, on the brink of independence, a central bank were implemented in a colony and extreme inflation were to result, both economic pride and national sovereignty would be significantly diminished.

I will conclude this personal review of the currency board debate by noting that, on average, inflation has been higher in countries that have replaced their currency boards with central banks. Economic growth has often been lower. (A forthcoming book by Hanke and Schuler will have up-to-date data on this point.) More specifically, as Hanke (2002, pp. 94-98) details, Argentina, Estonia, Lithuania, Bulgaria, and Bosnia-Herzegovina showed substantial improvements in inflation, real GDP growth, and other indicators after implementing currency boards (or currency board-like systems).

## 8. Conclusion

The currency board debate of the 1940s-1960s seemed to have gone in favor of the critics of currency boards. By the mid 1970s, only about a dozen currency boards existed, all in places with fewer than a million people.

In 1983, though, Hong Kong re-established the currency board system after more than a decade off it, to end a currency crisis. Hong Kong provided inspiration for the advocacy of currency boards in former communist countries in the 1990s. Estonia, Lithuania, Bulgaria, and Bosnia-Herzegovina implemented currency boards during the decade. Additionally, Argentina adopted a currency board-like system from 1991-2002. The system crashed spectacularly, but the other currency boards operated successfully, and Hong Kong's system remains in existence. Debate on currency boards was

### **Journal of Economics Library**

most intense during the 1990s but has continued to simmer, incorporating updated data and more recent theoretical arguments. Steve Hanke in particular has been active in continuing to suggest applying or reapplying the currency board system in a number of turmoil-ridden states, such as Nigeria, Lebanon, Venezuela, and Sudan.

## **Appendix**

### **Appendix: Debate Participants and Their Credentials**

Except as noted, academic positions such as lectureships and professorships are all in economics.

**"Analyst" (pseudonym):** No information; possibly Jamaican or other West Indian.

**Thomas Balogh (1905-1985):** Student, Corvinus University of Budapest; Student, Free University of Berlin; Financial Analyst, Reichsbank, Banque de France, and Federal Reserve (1928-1934); Analyst, O.T. Falk and Co.; Lecturer, University College London (1934-1939); Lecturer, Balliol College, Oxford (1940-1960); Reader, Balliol College, Oxford (1960-?); Economic Adviser to British Prime Minister Harold Wilson (1964-?); granted a life peerage as Baron Balogh (1968).

**Eugene Albert Birnbaum (1926?-2008?):** Research Economist, IMF (1946-1960); Senior Economist, Standard Oil Company (New Jersey) (1960s); Chief Economist, First National Bank of Chicago (1970s).

**George A. Blowers (1906-1969):** B.A., Harvard University (1928); Banker, National City Bank (1928-1938); General Manager, Bank of Monrovia, Liberia (1938-1943); Governor, State Bank of Ethiopia (1943-1949), Member, United Nations and IMF Missions to Libya, Central America, and Saudi Arabia (1950s); Governor, Saudi Arabian Monetary Agency (1952-1954); Director, Export-Import Bank of the United States (1954-1961).

**Sir Sydney Caine (under "Special Correspondent") (1902-1991):** Secretary, West Indian Sugar Commission and U.K. Sugar Industry Commission (1926-1936); Financial Secretary of Hong Kong (1937-1940); Consultant, World Bank; Minister, British Embassy, Washington; Vice-Chancellor, University of Malaya (1952-1957); Director, London School of Economics (1957-1967); Chairman, UNESCO International Institute for Educational Planning (1963-1970).

**Peter Joseph Drake (?-present):** Student, University of Melbourne; Student, Australian National University; Economics Researcher, Commonwealth Banking Corporation; Lecturer, University of Malaya; Principal, University of New England, Armidale; Vice-Chancellor, Australian Catholic University (1991); Senior Lecturer, University of Melbourne; Member of the Order of Australia (2003).

**Arthur F. Earle (1921-2017):** Royal Canadian Navy (1939-1945); aluminum company executive (1948-1962?); B.S. by correspondence, London School of Economics (1952); Ph.D., London School of Economics (1958); CEO, Hoover UK (1962?-1965); Founding Principal, London Business School (1965-1972).

**John Exter (1910-2006):** B.A., College of Wooster (1928-1932); Student, Tufts University; Student, Harvard University (1939-?); Student, Massachusetts Institute of Technology; Economist, Board of Governors of the Federal Reserve System (1946); Adviser to the Secretary of Finance of the Philippines (1948); Governor, Central Bank of Ceylon (1950-1953); Middle East Division Chief, World Bank (1953); Vice President, Federal Reserve Bank of New York (1954); Vice President, First City National Bank (1959-1960); Senior Vice President, First National City Bank (1960-1972).

**Ida Cecil Greaves (1906-1990?):** From Barbados, white; B.A., McGill University (1929); M.A., McGill University (1930); Lecturer, London School of Economics.

**David Lawrence Grove (1918-2016):** B.A., Harvard University (1940); Office of Strategic Services (World War II); Ph.D., Harvard University (1952); Economist, Board of Governors of the Federal Reserve System (1944-1952); Adviser to multiple governments including the Philippines (1948-1949), Paraguay, Ecuador, Guatemala, Colombia, Chile, Israel (1940s-1950s); Chief Economist, Bank of America (1952-1958); Vice President, Bank of America (1959-1963); Vice President and Economic Adviser, Federal Reserve Bank of San Francisco (1963-1964); Vice President and Economist, Blyth & Company (1965-1966); Chief Economist, International Business Machines (1966-1978); President, David L. Grove Ltd. (1978-1985).

**Arthur Dennis Hazlewood (?-2015):** Student, University of London; Economics Fellow, Pembroke College, University of Oxford (1961-1988); Warden, Queen Elizabeth House, University of Oxford (1979-1986).

**Samuel Irving Katz (1916-1993):** Student, George Washington University (1936-1942); Student, Harvard University (1946-1948); Agricultural Economist, U.S. Department of

## Journal of Economics Library

Agriculture (1935-1948); First Lieutenant, Economic Division, U.S. Military Government for Germany, U.S. Army (1943-1946); Adviser, Division of International Finance, Board of Governors of the Federal Reserve System (1948-1974); Lecturer, American University (1958-1965); Professorial Lecturer, George Washington University (1966-1968); Visiting Professor, MIT Sloan School of Management (1969); Professor, Georgetown University (1974-1986); Editor, *Finance and Development* (1977-1982).

**Frank Henry Haviland King (1926-2012):** U.S. Army (World War II); B.A., Stanford University; Ph.D., Oxford University; University of Hong Kong (1950s); Economist, World Bank; Professor, University of Kansas; Director, Centre of Asian Studies, University of Hong Kong (1969-1989).

**Robert Joseph Lampman (1920-1997):** Professor, University of Wisconsin-Madison (1958-1987); Interim Director, University of Wisconsin-Madison Institute for Research on Poverty (1966); Economist, President's Council of Economic Advisers (1962-1963).

**William Arthur Lewis (1915-1991):** Student, London School of Economics (1933-1937); Assistant Lecturer, London School of Economics (1938-1947); Professor, University of Manchester (1948-1957); Economic Adviser, Nigeria, Ghana, Trinidad & Tobago, Jamaica, and Barbados; Vice-Chancellor, University of the West Indies (1959-1962); Professor, Princeton University (1963-1983); President, Caribbean Development Bank (1970-1973); Recipient, Nobel Prize in Economics (1979).

**George M. Lomoro (?-?):** Makerere University (1960s); Executive Director and Group Economist, Uganda Development Corporation (1970s).

**John Loxley (1942-2020):** Student, University of Leeds (1959-1966); Lecturer, Makerere University (1960s); Lecturer, University of Dar-es-Salaam; Manager, National Bank of Commerce, Tanzania; Director, Institute of Finance, Tanzania; Deputy Minister, Economic Development Sub-Committee, Manitoba (1975-1977); Professor, University of Manitoba (1977-?); Economic Adviser, Uganda, Tanzania, Madagascar, Mozambique, Manitoba, and South Africa.

**John Mars (born Hans Materschläger) (1898-1985):** Consultant, Austrian Chamber of Commerce, Vienna (1926-1934); Lecturer, Trinity College Dublin (1946-1948); Senior Lecturer, University of Leeds (1948-1949); Reader, University of Manchester (1949-1962); Economist, United Nations Economic Commission for Africa (1962-1970).

**Alexander Norman McLeod (1911-2007):** Member, IMF Missions to Libya, Central America, and Saudi Arabia (1952); Chief Economist, Toronto-Dominion Bank; Governor, Central Bank of Trinidad & Tobago; Professor Emeritus, York University.

**Hla Myint (1920-2017):** Student, University of Rangoon (1935-1939); Student, London School of Economics; Professor and Rector, University of Rangoon (1945-1952, 1958-1961); Economic Adviser, Burmese National Planning and State Agricultural Bank Committee (1950s); Professor Emeritus, London School of Economics (1966-1985).

**Edward Thomas Nevin (1925-1992):** Student, Aberystwyth University (1946-1949); Student, Cambridge University; Lecturer, Aberystwyth University (1952-1968); Ministry of Finance, Jamaica; Member, Economic Research Institute, Dublin; Professor, University of Swansea (1968-1990).

**Walter Tessier Newlyn (1915-2002):** Student, London School of Economics (1945-1948); Economic Adviser, Government of Uganda (1956-1959); Chairman, UN Expert Committee on Payment Agreements in Africa (1960s); Director of Economic Research, East African Institute of Social Research (1965-1967); Professor, University of Leeds (1967-1978); Researcher, University of Sussex Institute of Development Studies.

**Barbu Mihai Niculescu (1917-1998):** M.A., University of Cambridge; Ph.D., University of London; Economic Warfare and Political Intelligence Division, British Foreign Office (early 1940s), Bank of Ghana (1950s); Senior Lecturer, University of Melbourne (1962-1964); Professor, Victoria University of Wellington (1964-?); Author, *Colonial Planning – A Comparative Study* (1958).

**J.O.W. (Obasanmi) Olakanpo (1935-1972?):** Student, London School of Economics; Professor, University of Ibadan; Professor, University of Lagos.

**David C. Rowan (1918-2008):** Student, St. Lawrence College, Ramsgate; British Army (World War II); Student, University of Bristol; Junior Lecturer, University of Birmingham

### **Journal of Economics Library**

(1950s); Professor, University of New South Wales; Visiting Professor, University of Melbourne; Professor, University of Southampton (?-1970); Visiting Professor, Australian National University; Adviser, Organization for Economic Cooperation and Development; Economist, Federal Reserve Bank of St. Louis; External Examiner, University of the West Indies.

**Herbert Austin Shannon (?-?)**: Student, University of Belfast; Student, London School of Economics; Senior Lecturer, University of the Witwatersrand; Senior Lecturer, University of Bristol; Assistant Secretary, British Board of Trade; Assistant Chief, British Commonwealth Division, IMF (1950s).

**Paul W. Sherwood (born Paul Steinitz) (1922-?)**: Born in Vienna; fled Nazi rule; British Army (World War II); B. Com., London School of Economics (late 1940s); Assistant Lecturer, London School of Economics (late 1940s); Lecturer; University of Malaya, Singapore (1950-1958); cofounder and first editor, *Malayan Economic Review* (1950s); Senior Lecturer, Newcastle University College (later University of Newcastle), Australia (1958-1978).

**Clive Yolande Thomas (1938-present)**: Student, Queen's College, Guyana; Student, University of Guyana; Student, University of London (1964); Professor and Director of the Institute of Development Studies, University of Guyana (1970-2020); Visiting Professor, University of Dar-es-Salaam; Visiting Professor, Carleton University; Visiting Professor, Colgate University; Visiting Professor, University of the West Indies; Presidential Adviser, Ministry of the Presidency (as of 2021); Chairman, Guyana Sugar Corporation (as of 2021).

**Guy M. Watson (?-?)**: Bank of England, including Chief of Overseas Department (1957-1959) and Chief of Central Banking Information Department (1959-1963).

**Paul Alexander Wilson (1903-?)**: Research Economist, World Bank (1957-?).

## Journal of Economics Library

### References

- Analyst. (1953). Currency and banking in Jamaica. *Social and Economic Studies*, 1, 41-53.
- Analyst. (1954). Rejoinder to Mr. Earle. *Social and Economic Studies*, 3(1), 105-108.
- Balogh, T. (1958). A note on the monetary controversy in Malaya. *Malayan Economic Review*, 4(2), 21-26.
- Basu, S.K. (1971). *A Review of Current Banking Theory and Practice*. Calcutta: Macmillan.
- Birnbaum, E.A. (1957). The cost of a foreign exchange standard or of the use of a foreign currency as the circulating medium. *IMF Staff Papers*, 5(3), 477-491.
- Blowers, G.A., & McLeod, A.N. (1952). Currency unification in Libya. *IMF Staff Papers*, 2(5), 439-467.
- Caine, S. (1948-1949). Monetary Systems of the Colonies," *The Banker* (London), July 1948: 21-24; "II. West Africa," August 1948: 93-99; "III. East Africa," September 1948: 169-175; "IV. Hong Kong," October 1948: 33-39; "V. Malaya," November 1948: 101-106; "VI. The West Indies," December 1948: 161-167; "VII. The Indian Ocean, Pacific, and Mediterranean Colonies," January 1949: 42-43. "VII. Trends and Future Possibilities," February 1949: 92-98.
- Caine, S.(1950). *Monetary Systems of the Colonies*. London: The Banker.
- Drake, P.J. (1969). *Financial Development in Malaya and Singapore*. Canberra: Australian National University Press.
- Earle, A.F. (1954). Colonial monetary theory. *Social and Economic Studies*, 3(1), 97-105.
- Exter, J. (1949). *Report on the Establishment of a Central Bank for Ceylon*. Ceylon Sessional Paper No.14. Colombo: Ceylon Government Press.
- Greaves, I.C. (1950). *Monetary Systems of the Colonies*. London: His Majesty's Stationery Office.
- Greaves, I.C. (1951). The sterling balances of colonial territories. *Economic Journal*, 61(242), 433-439.
- Greaves, I.C. (1953). Sterling balances and the colonial currency systems: A comment. *Economic Journal*, 63(252), 921-923.
- Greaves, I.C. (1954a). The character of British colonial trade. *Journal of Political Economy*, 62(1), 1-11.
- Greaves, I.C. (1954b). *The Colonial Sterling Balances*. Princeton University Essays in International Finance, No.20.
- Greaves, I.C. (1957). Colonial trade and payments. *Economics*, 24(93), 47-58.
- Grove, D.L., & Exter, J. (1948). The Philippine central bank act. *Federal Reserve Bulletin*, 34(8), 938-949.
- Hanke, S.H. (2002). Currency boards. *Annals of the American Academy of Political and Social Science*, No.579, 87-105.
- Hanke, S.H., Lars, J., & Schuler, K. (1993). *Russian Currency and Finance: A Currency Board Approach to Reform*. London: Routledge.
- Hanke, S.H., & Schuler, K. (1994/2015). *Currency Boards for Developing Countries: A Handbook*. San Francisco: Institute for Contemporary Studies Press.
- Hazlewood, A. (1952). Sterling balances and the colonial currency system. *Economic Journal*, 62(248), 942-5.
- Hazlewood, A. (1954a). Sterling balances and the colonial currency system: A reply. *Economic Journal*, 64(255), 616-17.
- Hazlewood, A. (1954b). The economics of colonial monetary arrangements. *Social and Economic Studies*, 3(3-4), 291-315.
- Hazlewood, A. (1959). *The Economics of "Under-Developed" Areas: An Annotated List of Books, Articles, and Official Publications*, 2nd edition. London: Oxford University Press.
- Humpage, O.F., & McIntire, J.M. (1995). "An Introduction to Currency Boards." *Economic Review*, Federal Reserve Bank of Cleveland, 2<sup>nd</sup> Quarter: 2-11.
- Katz, S.I. (1956). Development and stability in central and west Africa: A study in colonial monetary institutions. *Social and Economic Studies*, 5, 281-294.
- King, F.H.H. (1953). *The Monetary System of Hong Kong; with a Chapter on the Monetary System of Macao*. Hong Kong: K. Weiss.
- King, F.H.H. (1955). Sterling balances and the colonial monetary systems. *Economic Journal*, 65(260), 719-721.

## Journal of Economics Library

- King, F.H.H. (1957). *Money in British East Asia*. London: Her Majesty's Stationery Office.
- Lampman, R. (1967). The sources of post-war economic growth in the Philippines. *Philippine Economic Journal*, 6(2), 170-187.
- Lee, S.-Y. (1974). *The Monetary and Banking Development of Malaysia and Singapore*. Singapore: Singapore University Press.
- Lewis, W.A. (1955). *The Theory of Economic Growth*. London: Allen & Unwin.
- Lomoro, G.M. (1964). The East African currency board: Background and current problems. *EDRP Working Papers*, Makerere Institute of Social Research.
- Loxley, J. (1965). Sterling reserves and the fiduciary issue in East Africa. *EDRP Working Paper* No.90, Makerere Institute of Social Research.
- Loxley, J. (1972). Financial planning and control in Tanzania. *Development and Change*, 3, 43-61.
- Mars, J. (1948). The monetary and banking system of Nigeria. In M. Perham, 8Edt), *Mining, Commerce, and Finance in Nigeria*, v.2 of *Economics of a Tropical Dependency*. London: Faber and Faber.
- McLeod, A.N. (1976). The British currency-board system—Successes and shortcomings. *The Banker* 125(589), 247-252.
- Myint, H. (1964). *The Economics of the Developing Countries*. London: Hutchinson.
- Narsey, W. (2016). *British Imperialism and the Making of Colonial Currency Systems*. London: Palgrave Macmillan.
- Nelson, W.E. (1987). The gold standard in Mauritius and the Straits Settlements between 1850 and 1914. *Journal of Imperial and Commonwealth History*, 16(1), 48-76.
- Nevin, E. (1961). *Capital Funds in Underdeveloped Countries*. New York: St. Martin's Press.
- Newlyn, W.T., & Rowan, D.C. (1954). *Money and Banking in British Colonial Africa: A Study of the Monetary and Banking Systems of Eight British African Territories*. Oxford: Clarendon Press.
- Niculescu, B.M. (1954). Sterling balances and the colonial currency system: A comment. *Economic Journal*, 54(255), 618-619.
- Olakpano, J.O.W. (1961). Monetary management in dependent economies. *Economica*, 28(112), 395-408.
- Ow, C.-H. (1985). The currency board monetary system—The case of Singapore and Hong Kong. *Ph.D. dissertation*, Johns Hopkins University.
- Rowan, D.C. (1954a). The monetary problems of a dependent economy. *Review of the Banca Nazionale del Lavoro*, 7(31), 200-213.
- Rowan, D.C. (1954b). The origins of the West African currency board. *South African Journal of Economics*, 22(4), 421-428.
- Rudner, M. (1975). Financial policies in post-war Malaya: The fiscal and monetary measures of liberation and reconstruction. *Journal of Imperial and Commonwealth History*, 3(3), 323-348.
- Schuler, K. (1992). Currency boards. *Ph.D. dissertation*, George Mason University.
- Schwartz, A.J. (1993). Currency boards: Their past, present, and possible future role. *Carnegie-Rochester Series on Public Policy*, 39, 147-188.
- Shannon, H.A. (1950). The sterling balances of the sterling area, 1939-1949. *Economic Journal*, 60(239), 531-551.
- Shannon, H.A. (1951). Evolution of the colonial sterling exchange standard. *IMF Staff Papers*, 1(3), 334-354.
- Shannon, H.A. (1952). The modern colonial sterling exchange standard. *IMF Staff Papers*, 2(2), 318-362.
- Sherwood, P.W. (1959). The Watson-Caine report on the establishment of a central bank in Malaya. *Malayan Economic Review*, 2(1), 23-34.
- Thomas, C.Y. (1965). *Monetary and Financial Arrangements in a Dependent Economy A Study of British Guiana, 1945-1962*. Mona, Jamaica: Institute of Social and Economic Research, University of the West Indies.
- Treadgold, M.L. (2005). Colonial currency boards: The seigniorage issue. *History of Economics Review*, 41, 126-141.

## Journal of Economics Library

- Watson, G.M., & Caine, S. (1956). *Report on the Establishment of a Central Bank in Malaya*. Kuala Lumpur: Government Printer.
- Williamson, J. (1995). *What Role for Currency Boards?* Washington, D.C.: Institute for International Economics.
- Wilson, P.A. (1957). Money in Malaya. *Malayan Economic Review*, 2(2), 59-63.



### Copyrights

Copyright for this article is retained by the author(s), with first publication rights granted to the journal. This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (<http://creativecommons.org/licenses/by-nc/4.0>).



**Journal of Economics Library**