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THE BURMA CURRENCY BOARD

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By Alexandra Diehl

About the Series

The Studies in Applied Economics series is under the general direction of Professor Steve H. Hanke, co-director of the Institute for Applied Economics, Global Health, and Study of Business Enterprise (hanke@jhu.edu). This working paper is one in a series on currency boards. The currency board working papers will fill gaps in the history, statistics, and scholarship of the subject. The authors are mainly students at The Johns Hopkins University in Baltimore.

About the Author

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Abstract

We provide a spreadsheet data series and legislative history of the Burma Currency Board (BCB) from 1948 to 1952. The paper assesses the level of orthodoxy exhibited by the board through analysis of legislation and statistics from quarterly bulletins. We also do a comparative analysis of economic health during and after the currency board era through use of economic markers. This paper makes various balance sheet data available in machine-readable form in a companion spreadsheet workbook.

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JEL codes: E58, N15

Introduction

The modern monetary history of Burma (Myanmar) begins in the late 1880s, when Burma became part of the monetary system of British India. Burma used Indian currency until World War II. Then, during the war period, Japanese occupation forces took control of Burma's monetary system, issuing hastily designed notes at a breakneck pace. War left Burma in monetary shambles with multiple currencies in circulation and soaring inflation. Before leaving Burma, the British attempted to stabilize the system. They established a currency board, which operated from 1948 to 1952. The Burma Currency Board (BCB) is the focus of this study.

As this brief summary shows, Burma's credit timeline has been punctured by internal strife and foreign intervention. From 1930 to 1942, the Burma Provincial Banking Enquiry (BPBE), a committee of British appointed bank officials, was staffed with the responsibility of overseeing the Empire's colonial holding in Burma. In 1935, the Reserve Bank of India (RBI) took over management of the Burmese monetary system, and the Burmese rupee (issued by the RBI) joined the existing paper currency (Old Burma Notes). Old Burma Notes were widely circulated, facilitating monetary transactions from large-scale exports of rice to daily purchases. When the British resumed control of Burma after the war, the BPBE issued British Military Administration notes (BMA notes) to be used by colonial officers but circulated among Burmese nationals as well—adding a third currency to the pool.

In the second half of the 20th century, control of Burma bounced from one military regime to the next. In the 1950s, many economists agreed that Burma held the potential to transition into an economic power. Instead, the country has remained a backwater—one of the least financially developed countries in South East Asia. In 1950, Burma was in a similar position to many other East Asian countries—an export-oriented country dependent on foreign demand for its natural resources. Unlike the "Asian Tigers" and China, the "Rice Bowl of Asia" never grew out of this mold. A large part of Burma's financial stagnation can be attributed to currency debasement that occurred under military rule, which sapped confidence in long-term financing.

Before analyzing the BCB during its years of operation, we examine Burmese financial history both before and during World War II, since British colonization and Japanese occupation had lasting affects on the financial system of Burma.

Colonial Burma

After the Third Anglo-Burmese War in 1885, Burma became a part of the monetary and financial system of British India. India was on a silver standard until 1893, when the currency floated as a transitional measure to prepare for a gold-exchange system that began in 1898. The Indian rupee was convertible into the pound sterling, which was convertible into gold. The rupee-sterling exchange rate established in 1898 was 15 rupees (Rs.) to £1. That rate persisted until 1917, when the Indian government abandoned it under the financial pressures of World

War I. A decade later, India officially re-established a link to sterling, at 13-1/3 rupees to £1.[1] The new rate lasted until 1966, long after Burma split from the Indian monetary system. Burma used coins issued by the Indian Mint and notes issued by the Indian Paper Currency Department, a part of the Indian Finance Department (Weintraub and Schuler 2013, 2-23). Before British rule, Burma's currency unit had been called the kyat, and it had been equivalent to the rupee, so the introduction of the rupee caused no major disruption.

Before independence and while Burma was still a part of British India, the BPBE considered creating an independent central bank for the Burmese. Since half of the BPBE membership was Burmese (the other half consisting of Indian and British officials), the Enquiry was exposed to a significant degree of Burmese nationalism. To Burmese nationalists, the establishment of a central bank would have been the first step toward economic independence. There were also secular arguments made in support of the proposal. Since its establishment, paper currency had always been more popular in Burma than in British India. However, there was and had been an enduring problem with supply. Supply of credit in Burma was limited given historically high interest rates, partly due to the dominance of the agricultural sector, which led to seasonal demand for credit. In their 1930 report, the Enquiry referred to the credit crunch as Burma's "essential problem," and proposed the solution of establishing a central bank. The report suggested that Burmese agriculture, industry, and trade would benefit from greater access to credit at lower interest rates. While the premise itself was not challenged, there were underlying concerns that stood in the way of the proposal, voiced by the non-Burmese members of the Enquiry. They said that the Burmese economy was "too small' and Burmese officials were too inexperienced to support an independent central bank (Turnell 2009, 82-88).

The Finance Secretary to Burma's colonial government, Thomas Lister, came up with a pragmatic alternative, calling for a Burma to maintain the rupee as its currency but to establish its own commercially active issue department. In this way, the credit crunch could be alleviated without placing too much monetary responsibility on the Burmese—in other words, while still holding Burma on the British Empire's economic leash.

From 1931 to 1932, there was discussion over Lister's proposal. Many officials in Calcutta as well as London voiced concern over Burma's ability to make sound monetary judgments. They worried that Burma would overinflate the rupee proving detrimental to financial stability in both regions. To Lister's chagrin, both the Indian and Imperial Governments proved adamant in their rejection of his idea. In March, the idea was put to rest with finality, during a meeting in London with Sir Louis Kershaw, the Under Secretary of State at the India office, who led the opposition. Kershaw was consistent in his support against a central bank. It is ironic that just over a decade later, he would lead the front in establishing a currency board for newly independent Burma.

[1] 13-1/3 is the exchange rate used in this paper's corresponding workbook calculations

The Reserve Bank of India

In 1935, the Reserve Bank of India (RBI) was formed and served as the central bank for British India, which at the time included what are now India, Pakistan, Bangladesh, and Myanmar. The RBI was divided into two departments: Issue and Banking. The Issue Department issued notes and managed their reserve backing. The backing was to consist of no less than 40 percent gold and sterling-denominated securities, but exhibited a certain extent of elasticity, since up to 25 percent could consist of rupee-denominated securities. This elastic component, along with direct loaning to provisional governments and credit cooperatives, allowed for monetary "accommodation" during the early years of the bank. The bank rate could be set to discount rupee-denominated securities and bills of exchange (Turnell 2007, 94). The bank forestalled earlier talk of creating an independent financial system for Burma, but it was not a permanent solution. With its establishment as a private share-holder's bank, Rangoon was given 3 million rupees out of the 50 million rupees distributed throughout British India, and even this small percentage began to fall almost immediately after its issuance as shares began "migrating to the Bombay Registrar." The migration occurred as a natural progression, as larger shareholders in India accumulated more shares, consolidating the issuance (Tun Wai 1953, 99-100). The empire's funding distribution illustrated where Burma stood in the hierarchy of British South Asia. The following migration of shares illustrated its lack of mobility and solidified its position as a lesser colony, at least financially.

Separation from India

In April 1937, with the implementation of the *Government of Burma Act* (1935), Burma separated from British India. While politically separated, Burma was still tied to India financially, as it continued to operate under the Reserve Bank of India. In other words, Burmese officials were still being pulled by Indian (and ultimately British) purse strings. As part of the Act, the RBI was commanded to produce separate bank notes for Burma. This gave the appearance of an independent system—but, in actuality, it was little more than an illusion of monetary liberation that forestalled actual progress. In 1938, the new notes were issued as "Burmese rupees." Instead of providing separate reserve backing for the new issuance, a joint consolidated reserve was formed to back both Indian and Burmese rupees (Turnell 2009, 96). While legal codes prevented Burmese rupees from circulating outside of Burma, Indian rupees still circulated in both countries. This disparity resulted in a loss of seigniorage rights for Burma. Additionally, there was a prolonged period of capital flight, as rupees from Burma ended up in Indian banks, given the majority of business and trade transactions were facilitated by Indian merchants and bankers (evidenced by the migration of funding shares, see Table 1). As a result, the Burmese banking system was undercapitalized at an extreme disadvantage to the Indian system. The colonial system cemented Burmese dependence precisely at the time Burma most needed to establish a sound financial footing. In a sense, Burma's preparation for independence was systematically handicapped. The colony remained financially reliant on India, very much a part of the British Leviathan (Furnivall 1939).

Table 1: Holdings of Reserve Bank of India Shares in Selected Centers

	Rangoon Circle: Burma Area		Total for India and Burma
Year	Shares	Shareholders	Shareholders
1935	30,000	3,157	92,047
1936	20,208	1,914	66,273
1937	19,196	1,767	62,570
1938	18,427	1,603	59,777
1939	18,425	1,490	57,192
1940	18,502	1,436	56,057

Source: *Report on Currency and Finance* for years 1935/36 till 1940/41 statements on "Distribution of shares" and sections of "Annual accounts of the Reserve Bank of India." Accessed through Tun Wai (1953, 100)

Japanese Occupation

Burma remained financially stunted for the next five years as the operation of the British Empire continued—business as usual. With the start of World War II, control simply shifted from one foreign power to another. On March 7, 1942, Burma became part of Japan's imperial empire. As in other conquered territories, the Japanese issued a military currency (also called rupees but referred to as kyat in Burmese). The notes were issued by the Yokohama Specie Bank, which opened in August 1942 and acted as a de facto central bank for Japan's southern territories (Min 2012). While old Burma rupees were still allowed to circulate, their use was discouraged.

Although the Japanese were considered liberators upon arrival, their wartime behavior soon lost favor among the Burmese public. Even the nature of the currency itself was problematic. Japanese Military (JM) rupees were printed with cheap ink on cheap paper and featured the design of a pagoda, which offended many religious Burmese who saw printing of the symbol as sacrilegious. One JM rupee was nominally equal to one yen as to facilitate trade in the "Co-Prosperity Sphere" that Japan sought to create throughout Asia. There was however, very little prosperity in this sphere, which acted primarily as a drain to funnel resources from conquered areas to the Japanese military operation.

The Japanese military facilitated the expansion of Japanese commercial enterprises into Burma for the remainder of the war. Large Japanese conglomerates *(zaibatsu)* set up branches in Burma, monopolizing industry and dominating the local economy. Smaller Burmese companies were unable to compete with the likes of Mitsui or Mitsubishi. Burmese companies were also disadvantaged by Japanese disregard for price controls. While local companies were constrained by wartime rationing, branches of Japanese companies were exempt from government controls. In this way, "Burma's raw materials and products were being transferred to the Japanese firms in exchange for the brightly colored paper issued by 'The Japanese Government'" (Bányai 1974, 85). Again, financial development in Burma was sacrificed in favor of its colonizer.

Postwar Burma

In early 1945, British and Allied forces retook Burma. Much of Burma's infrastructure and economic capacity had been lost in the war. Further deepening the postwar malaise, the monetary system proved to be severely damaged. Inflation rates skyrocketed as a result of accelerated Japanese money printing late in the war. This reckless printing left the military currency worth so little that a local industry had developed making children's hats from the excess notes (Turnell 2009, 142). The British decided that the only way to move forward was to demonetize the notes in 1946, which set a precedent for treatment of Japanese wartime currencies in Asia. An estimated 30 million rupees of JM notes were demonetized (Tun Wai 1953, 155).

Demonetization entails short-term losses to stabilize long-term inflation rates. However, as Donnison (1956, 223) suggests in his official history of British military administration in the Far East, inflation and poverty limited the damage—"the poorer people, particularly in villages, turned over such cash as came into their hands so quickly that their balances of Japanese currency at any given time were unlikely to represent more than a very small proportion of their wealth." However, many companies, especially those engaged in moneylending against gold-denominated mortgages, were left holding the worthless currency. Additionally, established agricultural credit lenders such as the Chettiars (a Hindu caste specializing in land owning and trade) and Dawson's Bank (one of the two major Burmese banks of the colonial era) never recovered from the demonetization (Tun Wai 1953, 164).

On August 20, 1945, the Reserve Bank of India re-opened in Rangoon, and the British Military Administration (BMA) took over control of the currency in circulation, which included Indian notes, pre-war "Old Burma" notes, and its own BMA notes.

Control of currency passed to the Burmese parliament with the termination of the British Military Administration in 1947. By the *Currency Notes Act* (1946), the Burmese government continued to issue BMA notes. Continued issuance was only possible because the British had left many printed but unissued notes behind. The Burmese rupee continued to be linked to Indian rupee at 1:1 through the Reserve Bank of India. However, by the *Burma Notes Act* (1947) and the *Exchange of High Denomination Burma Notes Rules* (1946), the larger denominations of Old Burma notes, Rs. 1,000 and Rs. 10,000, were demonetized (Tun Wai 1953, 156). Demonetization of the rupee-linked notes was indicative of the government's economic agenda. It was the first step toward breaking off ties with India and establishing an independent monetary authority.

The Republic

On the January 4, 1948, Burma formally gained independence from Britain. Between the end of Japanese occupation and independence, the country had been governed by an interim body, the Governor's Executive Council. The council had been constituted of primarily Burmese officials, but had operated under British authority (Indian Affairs London 1947, 2). Prominent council member and independence leader Aung San (father of the current prominent democratic leader Aung San Suu Kyi), after having spent decades uniting the many ethnic and linguistic regions of Burma, had finally brokered a peaceful agreement with the British and established a constitution in 1947. However less than six months before independence, he was assassinated when an opposition group armed with machine guns burst into his cabinet meeting. As a result, Burma was left in the hands of U Nu, Deputy Chairman of Aung San's AFPFL (Anti Fascist Peoples' Freedom League), who struggled to unite the country as conflict reemerged along ethnic and political lines.

As Prime Minister, U Nu followed the late Aung San's plan to create a socialist state. He made attempts to nationalize agriculture and other major industries (Nu 1952, 16-22). Though constant civil unrest limited the government's ability to render these reforms, public announcements of proposed changes injected uncertainty into the business environment, further hampering economic development.

The Currency Board

In addition to transferring control of Burma over to U Nu's government, Bank of England advisers to the Governor's Executive Council (an interim government of Burmese politicians) took steps to facilitate economic transition. It was clear that the Burmese wanted their own currency—the BPBE had pushed for greater financial freedom long before political independence had been granted. However, there was a consensus among the Bank of England officials that Burma did not have a broad enough financial base to establish a central bank and therefore would have difficulty managing its own currency. The Bank's chief representative in Burma, Raymond Kershaw, who had been a member of the West African Currency Board (Meade, 344), encouraged the Governor's Executive Council to adopt a similar model and in the 1948 fiscal year, the Burma Currency Board (BCB) was established. Since there were no AFPLF members on the council, the incoming AFPLF government had no voice in the matter, and was handed a monetary system along with independence.

With the currency board, the British attempted to restore some semblance of a monetary system in Burma. The tricky part was that there was no foundation to build on. Indeed, existing systems of credit had been destroyed in the war and many goods that had been sold on credit were now being sold on a cash basis. In wholesale trade, importers were taking 25 percent deposits with orders instead of accepting credit as during prewar years (Tun Wai, 166). The purpose of the currency board was to create stability out of a broken system. Kershaw and other advisors saw the board as a way to unfreeze credit, promote investment, and provide some relief to Burma's strained economy.

Establishment of the BCB

In May 1946, the Governor's Executive Council made the formal decision to establish the BCB. The following meetings of the drafting committee were run by Kershaw, who led discussion on how to create the Burmese version of the West African Currency Board.

Like its model, the BCB was based in London, and location aligned with staffing structure. Indeed, one of the five members of the Board had to be nominated by the Governor of the Bank of England. The first governing board comprised Sir Richard Hopkins, the retired Permanent Secretary of the British Treasury (Chairman), U Kaung (Burmese representative), Saw Htin Lin Mya (Burmese representative), W. Johnston (representative of the British Secretary of State for Burma), and Raymond Kershaw (Bank of England). Sir Sydney Turner, a British bureaucrat formerly in the India Office, was the Secretary of the BCB, while U San Lin, a member of the Burma Civil Service, was the "Currency Officer" or head of the BCB in Rangoon. In August 1946, the formal drafting of the law establishing the BCB took place with Kershaw as the main author aided by U Tin Tut, a statesman and the future author of independent Burma's first constitution (Turnell 2009, 147). Tin Tut's presence illustrates that while British were at the helm of the board, there was a Burmese presence. Current advisor to the President of Myanmar historian Thant Myint-U has described Tin Tut as "the brightest Burmese official of his generation" (Myint-U, 2011).

Main Features of the BCB

Established under the *Currency and Coinage Act* of 1946, the BCB formally came into operation on April 1, 1947 and managed an independent currency that had been established when in June 1946, the Government of Burma had severed its currency link to the Indian rupee (Tun Wai 1953, 156).

Under Section 10 of the *Currency and Coinage Act,* the Burmese rupee was designated as the official currency of Burma and was divided into 16 annas, like the Indian rupee. The rupee was fixed against the pound sterling at a rate of 1 shilling 6 pence per rupee, or 13-1/3 rupees per pound, again like the Indian rupee. Notes were allowed to be issued in denominations of 1, 5, 10, and 100 rupees. Burma initially continued to use Indian coins, but in 1949, coins of half a rupee, one-quarter rupee, an anna and half an anna were developed, and they began to be issued on July 20, 1950 (BCB Annual Report 1950, 4). Under Section 15 of the Act, conversion of Burmese rupees into sterling was guaranteed at the settled exchange rate. To back the issuance, the British government transferred sterling assets of £31.3 million into the BCB fund. They were not readily convertible into currencies not linked to sterling. The redemption date was postponed year after year until the British liability was met at £3.3 million in the final year of the board's operation (BCB Annual Report 1948, 4).

BMA notes still circulated and needed to be dealt with. Burma could not simply demonetize the notes as it had done with the JM rupees, because the BMA notes had been issued by Britain. Neither did Burma have enough foreign reserves to back them. This problem was faced by Raymond Kershaw, who decided to depart from orthodoxy and include a fiduciary element to the BCB; namely, what was called element "Y" to back the Old Burma notes. Under Section 25 of the *Currency and Coinage Act*, a fiduciary issue (element "Y") of 10 crores (100 million) Burmese rupees was created to cover the "outstanding issues of Old Burma and BMA notes." This issue allowed for the holding of domestic assets as a portion of the Board's initial reserves and for this portion to be lessened over time (Turnell 2009, 145-147). Though a figure was never explicitly stated, the Board's first annual report implied a minimum sterling cover for the Burmese rupee by estimating that the fiduciary component would not exceed 20 percent of the note issue (1948 BCB Annual Report, 4).

By the 1948 BCB estimates, there were 88,804,360 Rs. of BMA notes and 9,128,786 Rs. of Old Burma notes in circulation, which, combined with an issuance of 237,633,844 Rs. in BCB notes, gave a total of 335,566,844 Rs. notes in circulation (1948 BCB Annual Report, 6). The BMA notes were easily redeemed through element "Y" since there were a known quantity in circulation. The Old Burma notes, on the other hand, proved more difficult to redeem given that the original BCB approximation of Rs. 9.1 million severely underestimated the actual magnitude and needed to be revised, as shown in subsequent BCB annual reports. The miscalculations were so severe that in 1950, the Burmese government threatened to demonetize all remaining notes, but was convinced to back down by BCB Chairman Sydney Turner. By 1952, the total number of Old Burma notes redeemed was Rs. 38,345,750, over 420 percent of the 1948 estimate. This implies the reserve backing of currency in circulation was rather less than the official estimates (1948-1952 BCB Annual Reports).

The reserve backing had two primary components listed under assets on the BCB annual balance sheets: investments at mean market price and UK Treasury bills at cost price. Investments composed of 2.5% British National War Bonds for the first couple of years and then diversified to also include 2.5% British Exchequer bonds for the last several years. Over its four year span, the BCB's assets changed in composition. While the investment component remained steady at around £10.5 million until 1952, the share of British Treasury bills grew from around £5 million to more than three times that amount at over £16 million in 1952 (1948-1952 BCB Annual Reports).

End of the BCB and Rise of Central Banking, 1952

The BCB officially ended on December 31, 1952. In March of that year, the Parliament had passed an act transferring all functions of the board, as well as its assets and liabilities, to the Union Bank of Burma. The motivations behind this decision were political as Burma began its transition to a socialist system with the implementation of the Pyidawtha Plan (Turnell 2009, 154). The ambitious eight-year plan, intended to move Burma towards being an industrialized welfare state, set unachievable goals and largely resulted in failure. Unpredictable tariffs and regulations inserted uncertainty into the economy and fueled price volatility reversing the successes of the currency board era.

Criticism of the BCB

Although Burmese government officials may not have been aware of it, their thinking in replacing the BCB paralleled that of John Maynard Keynes. In 1945, the year before his death, Keynes commented on the possibility of establishing a currency board in Burma after the end of Japanese occupation:

> The existing system of our Currency Boards is . . . so frantically out of date and, indeed, unreasonable from the point of view of anyone's interests but our own, that there is not the smallest chance of inducing any self-governing country to hold it. The notion that a country can only expand its domestic purchasing power when it is in a position to cover the increase 100 per cent with foreign resources, belongs I am convinced, to an era of thought that can never return (Keynes in Helleiner, 225-226).

Keynes was clearly voicing his disapproval of not only Burma's board but the concept of currency boards and the British practice of establishing them in transitional colonies. To him, they were financial exploitation—a continuation of economic colonialism. Keynes found the 100 percent target backing far too restrictive and was in favor of fiduciary issuances. Put simply, he felt that there was not enough being done to promote economic development. He was not alone in this opinion. Despite the coalescence of top Burmese officials around the BCB, homegrown criticism existed broadly and was spurred by nationalistic fervor. Burmese nationalists riled against the system, based in Britain and largely operated by their colonizers. Indicative of this dissent was a 1948 draft proposal submitted to the newly established parliament that called for the transfer of funds to the Union Bank of Burma, a government bank (Turnell 2009, 151). Scholars also voiced concern. Aligning with Keynes, U Tun Wai, perhaps Burma's most prominent local economist, was concerned about the rigidity of the system. He wrote that unless stronger intermediary institutions were established "then the monetary authority responsible for issuing the currency notes should be given the right to issue notes in an elastic manner and not be tied down to some rigid base of gold or anything as advocated by the 'Currency School'" (Tun Wai 1953, 185).

A contrary view might start from the often-quoted dictum of Dr. Karl Schiller, West Germany's Economics Minister between 1966 and 1972, that "Stability is not everything, but without stability, everything is nothing" (quoted in Marsh 1992, 30). Under the BCB, there was steady monetary progress. As illustrated by the tests discussed below, fiscal discipline imposed by the BCB led to budget surpluses and stabilized prices, whereas Burma's experience under central banking has been one of frequent instability.

Orthodox Currency Boards

Orthodox currency boards issue notes and coins convertible on demand into a foreign anchor currency at a fixed rate of exchange. As reserves, they hold foreign assets equal to or even slightly greater than their monetary liabilities. In this way, currency boards eliminate monetary policy and operate automatically. A currency board is not allowed to alter the exchange rate, and market forces determine the quantity of the domestic currency in circulation and the demand for domestic currency (Hanke and Schuler, 4).

The argument for a currency board rested in part on fears about Burma's politics that were later realized. As control of the country bounced from one military presence to another, concerns of the economy were sidelined in political struggles. Indeed, Burma's political history illustrates the tendency of the military governments to revert to money financing, sacrificing the legitimacy of the country's monetary authority. Since orthodox currency boards promote economic stability by applying fiscal discipline, the idea of a currency board remains potentially relevant today. A currency board could be expected to facilitate significant monetary reform even with the political delay on economic reform.

How Orthodox Was the BCB? The Data and Our Tests

We digitized annual balance sheet data on the BCB from 1948 to 1952. The main sources of data were the Burma Currency Board annual and quarterly reports. See the spreadsheet workbook accompanying this paper for digitized data.

We performed three tests on the balance sheets to determine the level of orthodoxy exhibited by the BCB during its years of operation.

Test One: Domestic Assets, Foreign Assets, and the Monetary Base (graphs on next page)

We first measured net foreign assets as a share of the monetary base, in Figure 1. From 1948 to 1952, net foreign assets grew from approximately 55 to 75 percent of currency notes in circulation. Net domestic assets fell from around 45 to 25 percent. Total assets ranged from approximately 70 to nearly 80 percent of the monetary base.

As we can see from the upward trend beginning 1950, the BCB moved closer to orthodoxy during its span. However, it ultimately fell short of the 100 percent mark. Under an orthodox currency board arrangement, reserves of the anchor currency (sterling) have to at least cover 100 percent of the monetary base. Burma's financial situation complicated this arrangement through the fiduciary issue of element "Y".

Accordingly, domestic asset ratios trended downward during the currency board era, though never falling lower than 15 percent. Asset ratios are indicative of the change in composition of reserves, illustrating the transition to a greater percentage of sterling securities.

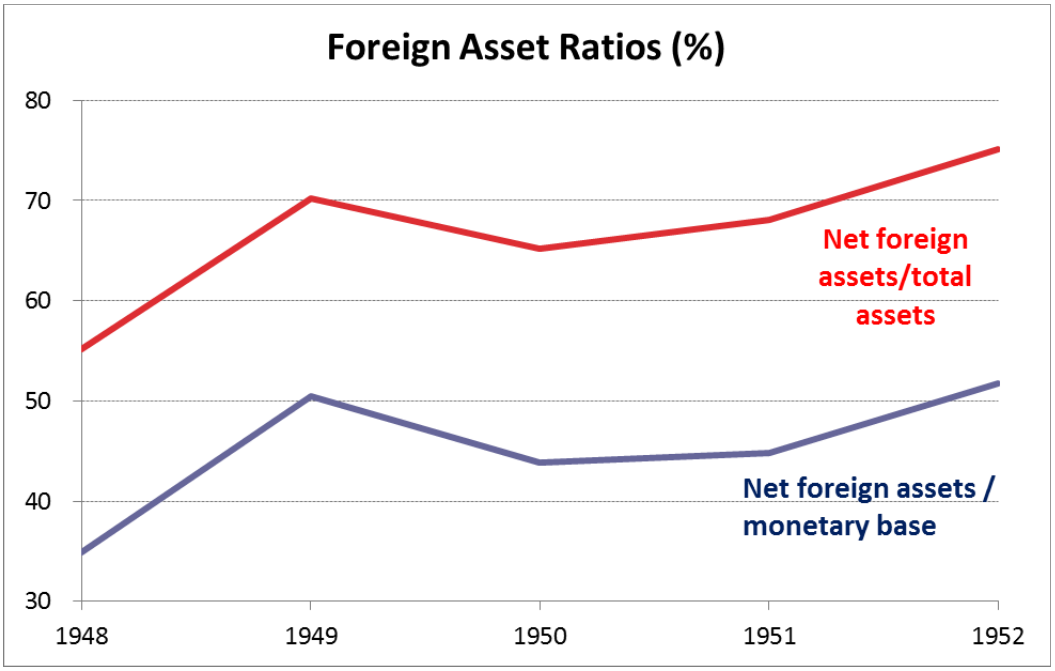

Figure 1: Foreign asset ratios indicate the degree of currency board orthodoxy. Orthodox currency boards exhibit ratios of close to 100 percent.
Main sources: Burma Annual Reports 1948-1952; calculations.

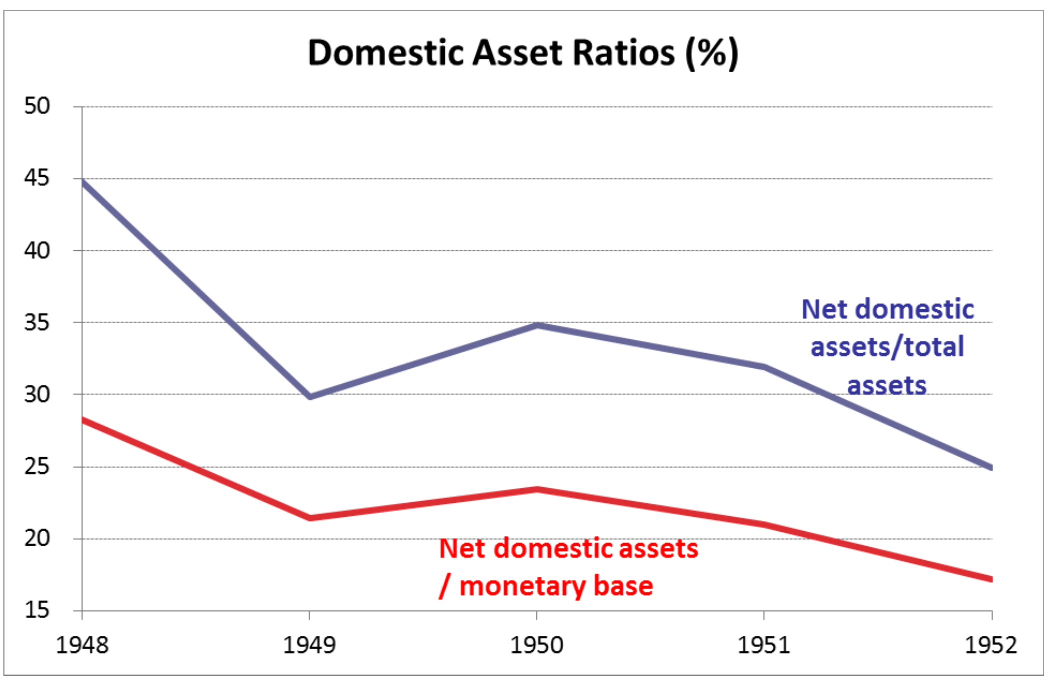

Figure 2: Domestic asset ratios indicate the degree of currency board orthodoxy. Orthodox currency boards exhibit ratios close to zero.
Main sources: Burma Annual Reports 1948-1952; calculations.

Test Two: Reserve Pass-Through

The second test we conduct is the "reserve pass-through," which measures year-over-year change in the monetary base divided by year-over-year change in net foreign reserves. By measuring on a year-over-year basis, the confounding effect of seasonal changes and one-time financial events is limited.

An orthodox currency board has a reserve pass-through rate that is "close to 100 percent" but in practice, "within a range of 80 to 120 percent" (Hanke 2008, 280). A reserve pass-through of 100 percent means that if net foreign reserves rise (or fall) by a certain amount, then the Burmese monetary base should also rise (or fall) by that same amount (Hanke 2008, 280).

During its years of operation, the BCB had a reserve ratio that fluctuated around 100 percent orthodoxy with a deviation in 1951 of 167 percent. From 1950 to 1951, money supply increased by a greater magnitude than foreign assets due to the acceptance of loans from the British government. These loans were to be used facilitate the monetary transition (*Burma Annual Report,* 1951).

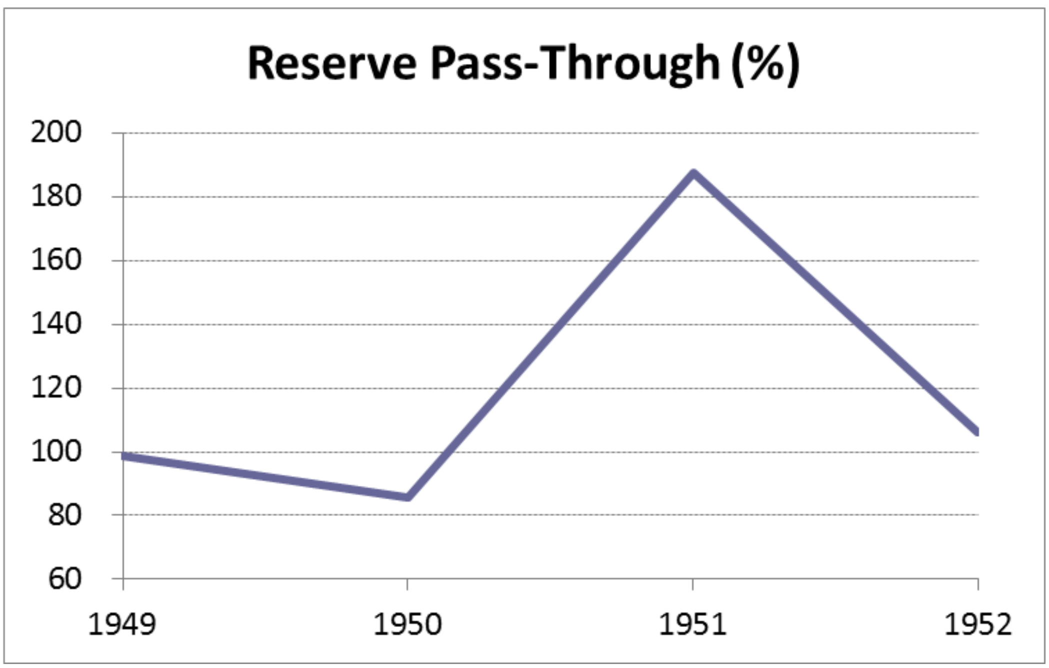

Figure 3: The reserve pass-through ratio measures year-over-year change in the monetary base over year-over-year change in net foreign reserves. Orthodox currency boards exhibit ratios close to 100 percent because any change in the money supply is accounted for by changes in foreign reserves.
Main sources: Burma Annual Reports 1948-1952; calculations.
*1948 is not shown because there was no prior year for a year-over-year calculation.

Test Three: Changes in Monetary Base and Net Foreign Assets

We also measured annual changes in the monetary base and changes in net foreign assets, in Figure 4 below. A strong correlation between the two metrics means that when net foreign reserves rise or fall by a certain amount, the monetary base should also rise or fall by that same amount (Hanke 2008, 280).

We observe a close correlation between changes in notes in circulation and changes in foreign reserves. From 1949 to 1952, there is a strong correlation between changes in the monetary base and changes in net foreign assets. Deviations occurred when the effects of an increase in the money supply were offset by the liberalization of private imports and the sale of foreign exchange to the private sector, which reduced the money supply and excess demand (Thein 2004, 26). The deviation of the sharp downturn in 1951 may indicate some level of unorthodoxy.

Even as a well-known critic of the BCB, U Tun Wai also wrote: if Burma did succeed in opening up the economy, then "seasonal inflow and outflow of foreign short-term capital" would act as an elastic margin and provide surplus needed to increase employment and grow the economy (Tun Wai 1953, 185). As illustrated through the following tests, the fiscal discipline imposed by the BCB led to a budget surplus and stabilized prices, fulfilling Tun Wai's requirements for an elastic margin and fueling growth even without rapid development of the banking system

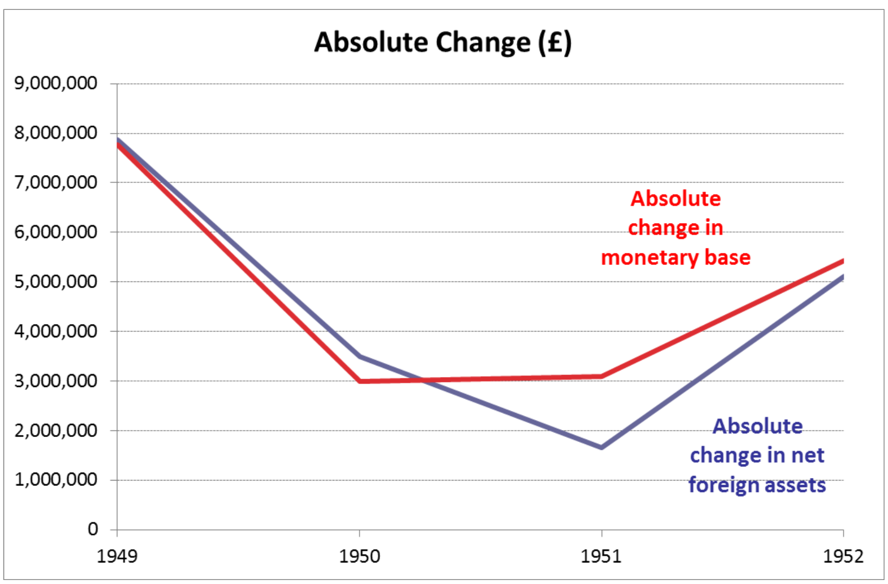

Figure 4: Absolute changes in monetary base and net foreign assets provide another measure of currency board orthodoxy. In orthodox currency boards they are close, because changes in the monetary base are financed by changes in foreign reserves.
Main sources: Burma Annual Reports 1948-1952; calculations.
*1948 is not shown since there was no prior year for a year-over-year calculation.

Fiscal Statistics, External Trade, Price Level, and Bank Deposits

Beyond the three tests that measure currency board orthodoxy, we also analyze budgetary statistics, external trade statistics, and reports on price level. Countries that have adopted currency boards tend to have respectable growth rates, price stability, and fiscal discipline (Hanke 2002, 92). Burma's government budget moved from deficit to surplus from 1948 to 1952. This may indicate a high level of fiscal discipline during the currency board years. However, on the revenue side, the government benefited from the price differential between the world price of rice and the lower domestic price fixed by the State Agricultural Marketing Board. On the expenditure side, a low level of developmental expenditures maintained low overall expenditures (Thein 2004, 28).

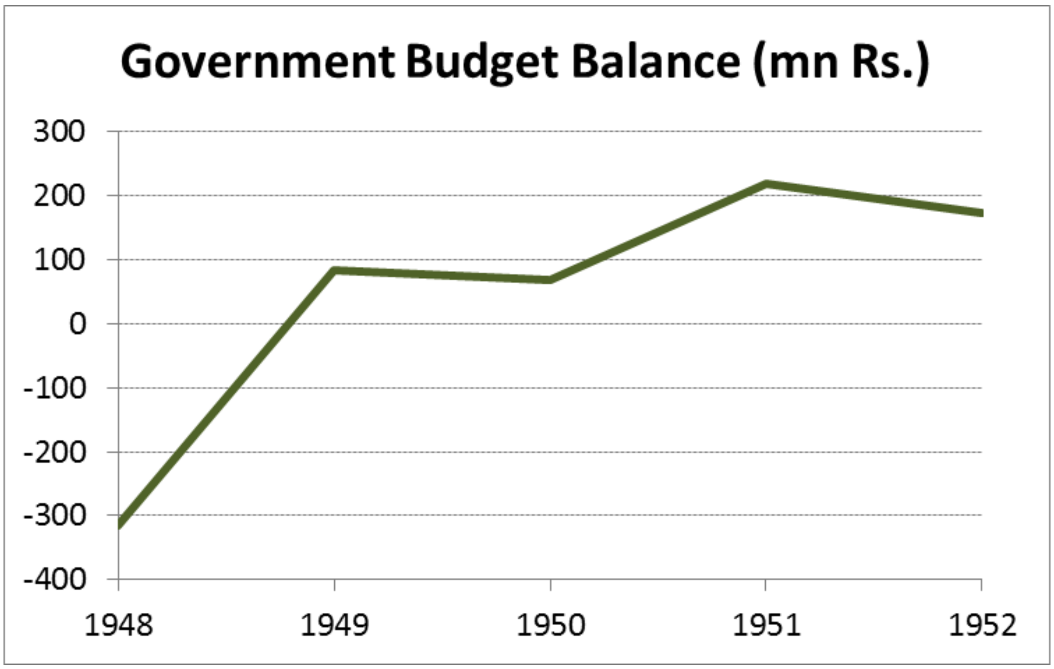

Figure 5: During the currency board era, Burma went from a 300+ million rupee budget deficit in 1948 to a sizable budget surplus.
Main source: IMF data

We also looked at Burma's external trade balance before, after, and during its currency board era. Between 1948 and 1956, Burma had an annual average trade surplus of over US$50 million, but since then it has been in decline due to the declining value of exports caused by trends in commodity prices. (See next page.)

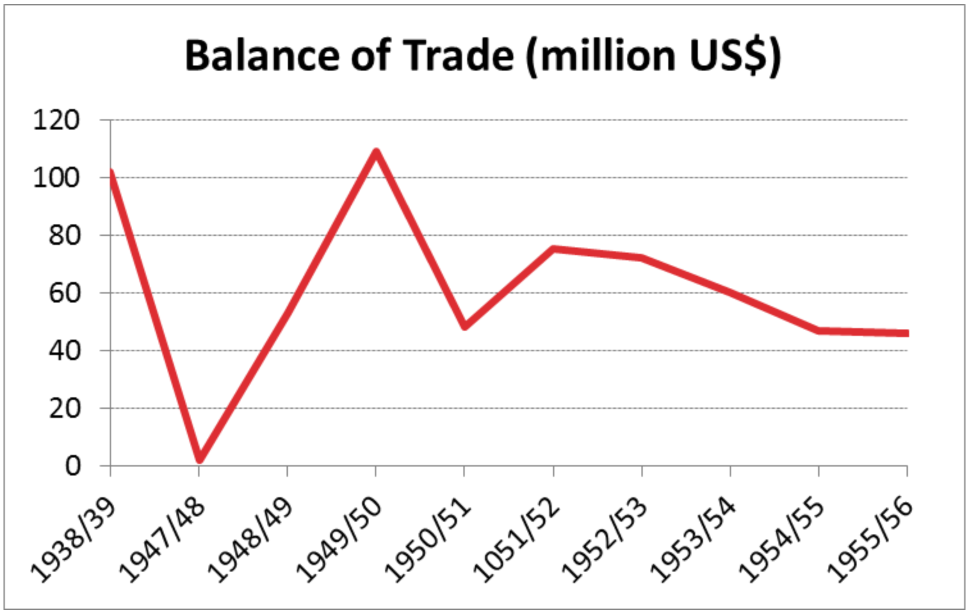

Figure 6: A major improvement in the balance of trade occurred at the beginning of the currency board era in 1948.
Main sources: IMF and World Bank data.

We performed another test, examining the stability of the consumer price index (CPI). The CPI begins to level out toward the end of the currency board era due to the stabilization of the money supply. The relative price stability during the period before 1955/56 is due primarily to the liberalization of private imports (Thein 2004, 26).

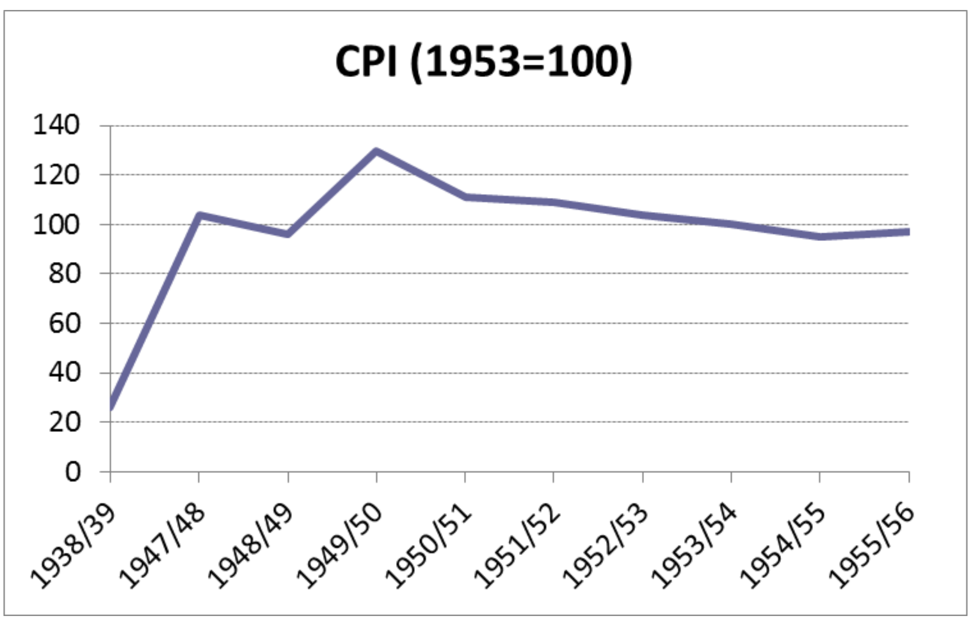

Figure 7: Burma's price level stabilized beginning around 1951.
Main sources: Economic Survey of Burma.

The final test we performed charts the ratio of Union Bank of Burma deposits to currency in circulation. The steadily increasing ratio indicates development of the banking system. The volatility is explained by the cyclical variations of an export-based economy with the peaks corresponding to credit expansion during harvest season (Thein 2004, 230). In this way, the financial stability of the currency board era stimulated the growth of indigenous banking, effectively filling the gap left by the dispersion of foreign credit-lenders in the years following Japanese occupation.

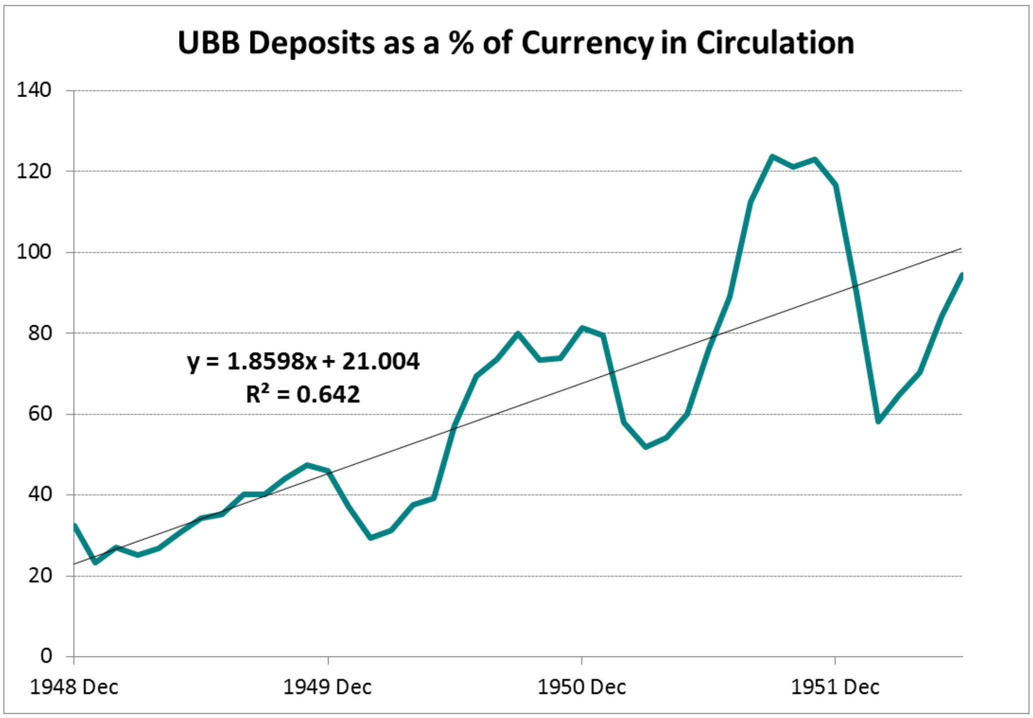

Figure 8: During the currency board era, the level of bank deposits grew steadily, indicating the development of the Burmese banking system.
Main sources: Burma Quarterly Bulletin of Statistics.

Burma under Central Banking

The Union Bank of Burma (UBB) had been established on October 1, 1947 under the *Union Bank of Burma Act*. Though it did not issue notes while the currency board was in place, the bank handled the distribution of notes and the foreign exchange activities of the government beyond those pertaining to the sterling backing of the currency. It acted as the government's banker, lending to the government with the provision that such advances had to be short-term and repayable within 90 days.

With the currency board ended, on July 1, 1952, the *Union Bank of Burma Act* (1952) conferred to the UBB the "powers and duties appropriate to a central bank with a view to strengthening the monetary and banking system of the Union of Burma and stimulating the sound growth of indigenous banking." These powers included accepting deposits from both the public and private spheres, acting as a lender of resort to commercial banks, lending to the government, conducting monetary policy through the buying and selling of government securities, managing the fixed exchange rate to the sterling, and smoothing monetary conditions against seasonal variations in bank lending (Tun Wai 1953, 167-174). In addition to its powers, the bank had three main responsibilities outlined in Section 4 of the Act, which included (1) monetary stability in the Union of Burma, (2) stability of the currency in relation to foreign currencies and (3) development of the productive resources of the country and a rising level of real income (Turnell 2009, 150-161).

The charts below show data of Burma (Myanmar) since 1960 concerning inflation levels and the exchange rate of the Burmese kyat against the U.S. dollar (the official or de facto reference currency). The charts illustrate that the performance of these indicators has been markedly worse under central banking than it was under the BCB. The differences are not entirely attributable to central banking: central banking in the form existing in Burma was part of a larger trend toward socialist economic institutions, a trend that has been partly reversed since the collapse of the Soviet bloc from 1989 to 1991. Even so, the differences between the indicators under the BCB and under central banking suggest why a currency board may be worth reconsidering in Myanmar today.

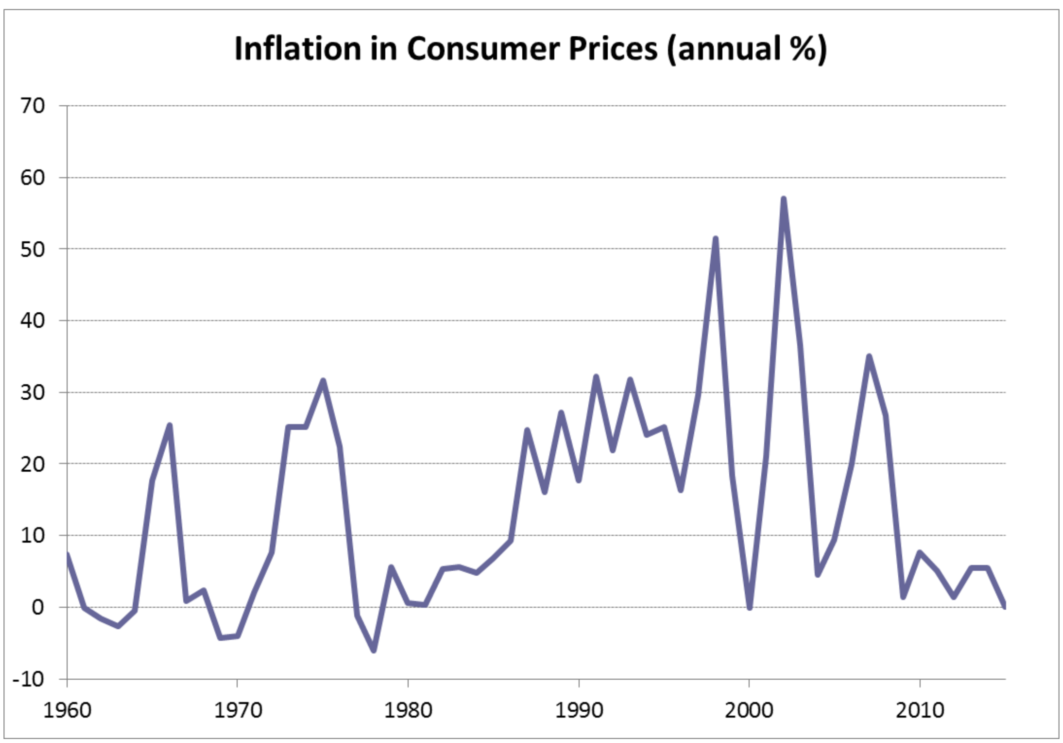

Figure 9: This chart shows inflation in the consumer price level from 1960 to 2014. Burma (Myanmar) has experienced much greater price volatility under central banking than under the currency board.
Main source: IMF International Financial Statistics

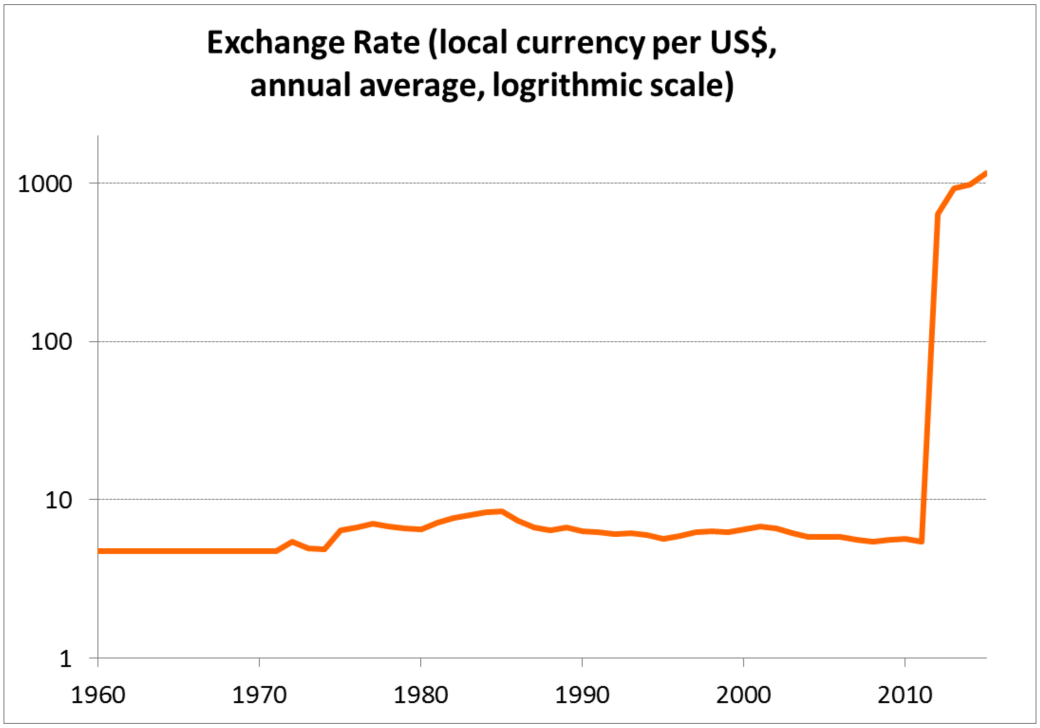

Figure 10: Note the rapid depreciation of the Burmese kyat after the government decided to float the currency in 2012. The apparent stability of the exchange rate before 2012 was in part illusory, typically supported by extensive exchange controls.

Conclusions

In establishing its monetary system after World War II, Burma needed to contend with the monetary legacy left by its period of Japanese occupation and decades of colonization before that. Emerging as a lopsided export economy dependent on the production of rice patty, Burma needed to establish a monetary system that would work toward stabilizing price levels and promoting development. The Burma Currency Board, though unorthodox in its reserve ratios, prevented the government from financing itself through inflation, imposing budgetary discipline that led to a budget surplus and eventually led toward the stabilization of price levels. It is worth considering whether a currency board would similarly helpful in Myanmar's current circunstances.

Postscript: Companion Spreadsheet Workbook and Source Documents

The companion spreadsheet workbook to this paper contains the underlying data, calculations, and the original versions of the graphs above. The workbook also contains some data not used in the paper.

References

Primary sources

Burma Currency Board. Annual report. 1947/1948-1951/1952. *Report of the Burma Currency Board for the Period 1st April, 1947, to 30th September, 1948* (1947/1948); *Report of the Burma Currency Board for the Year Ended 30th September, ...* (1948/1949-1950/1951); *Report of the Burma Currency Board for the Period 1st October, 1951, to 30th June, 1952.* Rangoon: Burma Currency Board.

Burma. Central Statistical and Economics Department. *Quarterly Bulletin of Statistics*. 1951 Q1-1952 Q3. Rangoon: Chief Controller, Central Press.

Nu, U. 1952. "Towards a Welfare State." Speech of Prime Minister U Nu delivered on the opening day of the Union Welfare State Conference on August 4, 1952, Ministry of Information, Government of the Union of Burma.

"Indian Affairs (London) Vol. 7." Google Books. United States Bureau of Indian Affairs, India-Burma Association, 1947. Digitized 5 May 2009. Web. 27 Jan. 2017.

Other publications

Bányai, Richard A. 1974. *Money and Banking in China and Southeast Asia during the Japanese Military Occupation 1937-1945.* Taipei: Tai Wan Enterprises Co.

Bolt, J. and J. L. van Zanden. 2014. "The Maddison Project: Collaborative Research on Historical National Accounts." *Economic History Review,* 67 (3), 627–651.

Donnison, F[rank] S[iegfried] V[ernon]. 1956. *British Military Administration in the Far East, 1943-46.* London: Her Majesty's Stationery Office.

Furnivall, J. S, and Gehan Wijeyewardene. *The Fashioning of Leviathan : the Beginnings of British Rule In Burma*. Canberra: Published in association with the Economic History of Southeast Asia Project and the Thai-Yunnan Project, 1991.

Hanke, Steve H. 2002. "Currency Boards." *Annals of the American Academy of Political and Social Science,* 579, 87-106.

Hanke, Steve H. 2008. "Friedman: Float or Fix?" *Cato Journal,* 28 (2), 275-285.

Hanke, Steve H, and Kurt Schuler. 1994. *Currency Boards for Developing Countries: A Handbook.* San Francisco, Calif.: ICS Press. Revised 2015 electronic version at http://krieger.jhu.edu/iae/books/Currency_Boards_for_Developing_Countries.pdf, viewed April 3, 2016.

Helleiner, Eric. 2014. *Forgotten Foundations of Bretton Woods: International Development and the Making of the Postwar Order.* Ithaca, New York: Cornell University Press.

International Monetary Fund (IMF). *International Financial Statistics.* Washington, D.C.: International Monetary Fund, various issues.

Khaṅ‘ Moṅ‘ Kraññ‘, U. 2000. *Economic Development of Burma: A Vision and a Strategy.* Stockholm, Sweden: Olof Palme International Center.

Krus, Nicholas, and Kurt Schuler. 2014. "Currency Board Financial Statements." Institute for Applied Economics, Global Health, and Study of Business Enterprise, Currency Board Working Papers, Studies in Applied Economics No. 22, December. http://krieger.jhu.edu/iae/economics/KrusSchuler_Currency_Board_Financial_Statements_2014.12.21.pdf

Marsh, David. 1992. *The Bundesbank: The Bank that Rules Europe*. London: Mandarin Paperbacks.

Meade, J. E. (James Edward), Howson, Susan, 1945 and Moggridge, D. E. (Donald Edward), 1943- *The collected papers of James Meade. Vol. 4., The Cabinet Office Diary, 1944-46.* Unwin Hyman, London, 1990.

Min, Min Sun. "Ch. IV Post Burma Independence." Banknotes of Burma. N.p., 07 Feb. 2012. Web. 27 Jan. 2017. http://banknotesofburma.blogspot.com/2012/02/chapter-iv-post-burma-independece-1948.html

Myint-U, Thant. 2001. *The Making of Modern Burma.* Cambridge: Cambridge University Press.

Myint-U, Thant. 2011. *The River of Lost Footsteps: A Personal History of Burma*. London: Faber and Faber. Web.

Thein, Myat. 2004. *Economic Development of Myanmar.* Singapore: Institute of Southeast Asian Studies.

Tun Wai, U. 1953, 1962. *Burma's Currency and Credit,* 1st edition, 2nd edition. Bombay: Orient Longmans Limited.

Turnell, S.R.. 2002. *Reforming the Banking System in Burma: A Survey of the Problems and Possibilities*. Technical Advisory Network at The Burma Fund.

Turnell, S.R. 2007. "The Elastic Margin: Central Banking Theory and Practice in Colonial Burma," paper presented at History of Economic Thought Society of Australia Conference, University of Queensland, St. Lucia, Australia, July. http://www.researchonline.mq.edu.au/vital/access/manager/Repository/mq:9210, viewed April 3, 2016.

Turnell, S.R. 2009. *Fiery Dragons: Banks, Moneylenders and Microfinance in Burma,* Copenhagen: NIAS Press.

Weintraub, Charles, and Kurt Schuler. 2013. "India's Paper Currency Department (1862-1935) as a Quasi Currency Board." Studies in Applied Economics no. 9, December, Johns Hopkins University Institute for Applied Economics, Global Health, and Study of Business Enterprise. http://krieger.jhu.edu/iae/economics/Indias_Paper_Currency_DepartmentWorkingPaper.pdf, viewed April 3, 2016.

World Bank. 1995. *World Bank Data Series, 1995.* New York: Oxford University Press.

World Bank. 2016. *World Development Indicators.* Washington, D.C.: World Bank. http://data.worldbank.org/indicator/FP.CPI.TOTL.ZG, viewed May 2, 2016.