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THE CONSTITUTIONS (FOUNDING LAWS) AND COMPARABLE FEATURES OF SELECT CURRENCY BOARDS IN THE FORMER BRITISH EMPIRE

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By Benjamin Tsoi

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 for the Currency Board Project. 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 who have conducted their work at the Institute as undergraduate researchers.

About the Author

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Summary

The following analysis uses data from the founding laws, which will be referred to as constitutions, of currency boards in select territories of the former British Empire (New Zealand, India, Ceylon, Straits Settlements, West Africa, East Africa, Palestine, Southern Rhodesia, and the British Caribbean) to determine how currency board structures and laws have evolved over the years to adapt to changing political and economic conditions. As the pioneer in the implementation of the first currency boards (even before the term was popularized) that spanned over multiple continents and multiple decades during the 19th and 20th centuries, the British Empire is the ideal body to analyze with its wealth of collected information. From the select currency board constitutions used in this analysis, information on the introduction of stricter rules over the years shows that currency boards have grown more complex to respond to inherent risks and challenges of an increasingly globalized economy (widespread financial crises and unpredictable markets). Restrictions on the types of securities that the currency board can invest in with its reserves and the explicit statement of the procedures when the value of liabilities exceeds the value of assets became standard practice. Despite the additional provisions in the constitutions, the foundation and structure of currency boards remained mostly unchanged because currency boards have always emphasized economic stability by maintaining adequate reserves and restricting the production of notes and coins in circulation. The constitutions show that currency boards are poised to adequately respond to changing political and economic conditions of the globalized economy, which helps explain the adoption of currency boards in countries around the world seeking economic stability long after the dissolution of the British Empire.

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Introduction

The origins and evolution of currency boards trace back to the British Empire of the 19th and 20th centuries, when it became necessary for the expanding empire to produce a stable, structured, and global financial system across its territories. At the same time, the adoption of paper currency in place of traditional metallic currency (silver and gold) to make financial transactions less burdensome made it even more necessary to institute a new system to meet the unprecedented challenges. The British were among the first to recognize the importance of stable exchange rates, ample backing for currency with reserves, and independence of the currency system from domestic governments that could abuse the power to print money to repay their debts through inflation. The concept of currency boards was born out of these criteria and demands, and the British Empire not only produced a currency system to serve its imperialistic needs, but also created a system that could be applied to other territories, countries, and regions around the world to promote a stable economic environment with minimal currency-related risk.

This paper analyzes the laws of some important currency boards of the British Empire. Comparing them provides insights into the development of currency boards. Changes between successive currency boards reveal which features fell out of favor and which became more central, universal features of currency boards across the Empire. This paper was also influenced by the desire to fill a niche in the conversation about currency board structures begun by Camilleri Gilson (2004), Ho (2003), and Tsang (1999). They discuss recent currency boards in countries such as Argentina, Bulgaria, and Hong Kong. It is desirable to expand the analysis to encompass older currency boards, most of which were in the British Empire.

The British Empire systematically established currency boards in its territories and allowed each dominion to produce and circulate its own currency (notes and/or coins) that was backed by metal reserves and financial assets that paid interest. The territories included, but were not restricted to, those being analyzed in this paper (listed in chronological order according to when their respective currency board constitutions were passed into law): New Zealand, India, Ceylon, Straits Settlements, West Africa, East Africa, Palestine, Southern Rhodesia, and the British Caribbean. Local notes and coins generated seigniorage for colonial governments that would instead have accrued to the British government had they used sterling (British currency). In addition, the local currencies usually had local language and imagery on them besides English writing, which made them more accessible to the public.

The analysis of the select nine territories in the British Empire intends to juxtapose the different currency boards through their constitutions to show the evolution of characteristics of currency boards seen today as instrumental in maintaining their integrity. From a historical perspective, the analysis provides insights into the rarely documented original founding documents of currency boards and produces a storyline of certain characteristics that became more apparent to lawmakers as being of utmost importance. Even though amendments to the founding laws are not analyzed here, it is possible to infer something about them by comparing the constitutions of later currency boards with those of earlier currency boards.

In addition, studying the constitutions helps show how currency boards adapted to macroeconomic trends such as the proliferation of complex financial instruments and capital flows, and microeconomic trends specific to their territories or the British Empire such as the financial relationship between the territories and the mother country. The analysis of the constitutions sheds light on the adaptive capabilities of a currency board and the commitment of those who implement the system to economic stability through currency stabilization in the face of global political and economic uncertainty and upheaval, which are still relevant today.

Methodology

The core of my analysis relies on data collected from the original currency board constitutions of select former British Empire territories: New Zealand, India, Ceylon, the Straits Settlements, West Africa, East Africa, Palestine, Southern Rhodesia, and the British Caribbean. Once I decided that the British Empire was the focus of my analysis of the development and progression of early currency boards, the ability to locate the necessary and available documents became the main limiting factor of my analysis. The constitutions were collected through online searches of public archives and trips to public libraries such as the Library of Congress in Washington, D.C. and the British Library in London. The nine former British Empire territories were then chosen not only based on the availability of their currency board constitutions, but also because they provided breadth and depth of analysis since their currency boards were founded at different times and their locations spanned continents.

Once the original constitutions were collected through online download or photography of the physical copies, select information was transcribed onto Tables found in this paper. (Source information and downloadable PDFs for the constitutions can be found towards the end of this working paper in the section "Source Documents.") The Tables allow us to systematically juxtapose the currency boards and their constitutions based on standardized criteria. They include basic information such as the name and date of the currency board law, and then go into detail about exchanges rates and the restrictions regarding the assets and liabilities that can be held by the currency board. The Tables are organized so that for each currency board, a simple response such as "Yes," "No," or "Unclear" is recorded to show if the constitution includes information pertaining to the criteria in question (with Unclear meaning either the information is not explicitly stated or has room for interpretation). If additional information is available, it is provided to explain the reasoning behind the responses.

This paper uses seven out of the many regulations and characteristics recorded to narrow the analysis to the most salient points. These characteristics are: (1) exchange rate to anchor currency, (2) types of assets the currency board can hold, (3) prohibition against holding domestic assets, (4) minimum reserve ratio against monetary liabilities, (5) policy if liabilities exceed assets, (6) procedures for the distribution of profits, and (7) policy or managerial autonomy of the currency board from the government. These characteristics were chosen based on their historical relevance to the development of currency boards, which have taken on a more refined, universal definition over the years.

By the late 20^{th} century, the concept an "orthodox" currency board had been developed. It specified a set of criteria that a currency board must comply with to maintain its integrity as a system where the monetary base expands and contracts according to well-specified rules. Johns Hopkins economist Hanke (2002) defines an orthodox currency board as a "rule-bound monetary institution without discretionary monetary policies". A more comprehensive definition can be found in the same text. In this working paper, the nine currency boards will be put through an "orthodoxy test" only based on the seven characteristics mentioned. The analysis and charts were set up so that a "Yes" response for a currency board for the particular characteristic studied generally meant that the board was orthodox according to that particular trait. My interpretations of the criteria for the seven characteristics will be explicated in the analysis section this working paper. This method of analysis will reveal trends or progressions over the years towards the present-day accepted definition of a currency board.

The analysis section includes a simple chart with an overall view of each characteristic for each currency board. The chart simply records a Yes, No, or Unclear response for whether or not a particular currency board constitution has a provision regarding the specified characteristic. Then each characteristic has its own sub-section with a full analysis where the Yes, No, or Unclear responses are explained with explicit descriptions and details since the differences between currency board constitutions are often nuanced and the changes between each successive board are typically incremental. The information in each sub-section is also presented in table form for intuitive juxtaposition.

A currency board may be referred to not by its full name, but only by the name of the territory it served. Out of the nine currency boards analyzed, the term currency board was not explicitly used until the formation of the West African Currency Board in 1912. However, for the sake of simplicity and because they share the same lineage and many characteristics, the institutions are all referred to as currency boards even though some names did not use the term explicitly, i.e. the Colonial Bank of Issue (New Zealand), the Department of Issue (India), the Ceylon Currency Commissioners, and the Board of Commissioners of Currency (the Straits Settlements). After the West African Currency Board, the term became standardized, i.e. the East African Currency Board, the Palestine Currency Board, the Southern Rhodesian Currency Board, and the British Caribbean Currency Board.

Analysis of Select Regulations and Characteristics

Table 1 is an overarching summary of the seven characteristics mentioned above and some identifying details of each currency board. Subsequent Tables go into detail about each characteristic.

Table 1. Summary of Regulations and Characteristics Specified in the Currency Board Constitutions of the Select British Territories									
	New Zealand	India	Ceylon	Straits Settle-ments	West Africa	East Africa	Pales-tine	South-ern Rhod-esia	British Carib-bean
Year of Constitution	1847	1861	1884	1897	1912	1921	1927/ 1928	1938	1950
Specifies exchange rate to anchor currency?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Specifies types of assets the currency board can hold?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Prohibits holding domestic assets?	No	No	Yes	Yes	No	No	No	No	Yes
Minimum reserve ratio against monetary liabilities?	Yes	Yes	Yes	Yes	Yes/ Unclear	Yes/ Unclear	Yes/ Unclear	Yes/ Unclear	Yes/ Unclear
Specifies policy if liabilities exceed assets?	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes
Specifies procedures for distribution of profits?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Policy or managerial autonomy of the currency board from the government?	No	No	No	No	No	No	No	No	No
Note: Each detail (besides the year the currency board constitutions was signed into law) was answered with Yes/No/Unclear depending on if it was specified. Some with gray areas and possible mixed interpretations are marked as Unclear and are explained later in the body of the text document.									

Exchange Rate to Anchor Currency

All of the currency board constitutions required the currency boards to issue notes and coins convertible on demand into the anchor currency at a fixed exchange rate. People could exchange silver, pounds sterling, or other acceptable money equivalents into the local currency and vice versa. The rationale behind a fixed exchange rate was that this type of monetary stability would create confidence that the publicly held local currency notes would not devalue against the anchor currency. If a devaluation risk existed, individuals would not have exchanged for the local currency. The paper notes were issued to be good stores of value, despite having no intrinsic value. Therefore, currency boards needed to have a fixed exchange rate, which could only be maintained if they had sound balance sheets where the value of liabilities did not exceed the value of assets.

The Table below shows the exchange rate of the local currency to the anchor currency and includes the page number(s) for each source in its respective currency board constitution. For the currency boards studied in this working paper, the anchor currency was silver, gold, or sterling notes and coins. (Even though the anchor currency was mainly either silver or sterling, some constitutions allowed gold or securities to be held as assets since they were highly liquid and could be easily exchanged for silver or sterling in the market.) Currency boards in India and Ceylon had silver as their anchor currency because in Asia, silver had been the standard of value for centuries prior to the formation of the currency boards. Silver was a very liquid asset and had a fairly stable market value in the early and mid 1800s. In the late 1800s, silver depreciated against sterling, which was a gold-standard currency, and India and Ceylon essentially switched to sterling as their anchor currency.

The switch to sterling was accompanied by a switch from metal to purely financial reserves. Early currency boards held large amounts of silver (or gold) coins in their vaults. Later on, British administrators figured out that the currency boards simply had to hold enough reserves in easily saleable securities in London to meet the convertibility requirement.

In the constitutions for the West Africa Currency Board and boards created after it, the exchange rate was simply expressed in terms of local currency to sterling. For ease of calculation, most currency boards maintained a one-to-one exchange rate with sterling. There were exceptions that kept their old units, though: India and Ceylon, where the rupee had been used as a unit of account for centuries before British rule, and the British Caribbean, where the dollar (originating from the Spanish silver dollar, also known as the peso or piece of eight) had been the standard unit of the hemisphere since the 1500s.

It is evident that over the years, currency board constitutions have had provisions that stressed the importance of maintaining a stable and predictable exchange rate, which has become an important criterion of an orthodox currency board. "An orthodox currency board issues notes and coins convertible on demand into a foreign anchor currency at a fixed exchange rate" (Hanke 2002: 88), so all nine currency boards studied adhered to this principle.

Table 2. Exchange Rate to Anchor Currency		
Currency Board	**Yes/No/ Unclear**	**Details**
New Zealand	Yes	"Every note shall be expressed to be payable in pounds sterling and in cash" (p. 299, Section 10)
India	Yes	979 Indian rupees = 1000 tolahs of standard silver fit for coinage (Section IX)
Ceylon	Yes	1 Indian rupee (note) = 1 Indian silver rupee (coin) (p. 350, Section 11)
Straits Settlements	Yes	Notes expressed in dollars can be exchanged for "payment in silver coin of the amount expressed in the note" (p. 1654, Section 4)
West Africa	Yes	British West African £1 (coin) = equivalent par value in gold (p. 7, Section 6)
East Africa	Yes	8½ Indian rupees = 2 shillings 4 pence sterling (p. 2, Section 2)
Palestine	Yes	Palestinian £1 (1000 mils) = £1 sterling (p. 6, Section 6)
Southern Rhodesia	Yes	Southern Rhodesian £1 = £1 sterling (p. 4, Section 13 and p. 5, Section 17)
British Caribbean	Yes	British Caribbean $1 = 4 shillings 2 pence sterling (p. 248, Section 2)

Types of Assets the Currency Board Can Hold

The currency boards held their assets in funds with names such as "Currency Fund" or "Note Security Fund," and to maintain convertibility, they needed to have enough reserves on hand so that anyone who demanded to exchange between the local currency and the anchor currency could do so at any currency board location. Therefore, a currency board or its agent needed sufficient silver, gold, cash, or sterling in its vaults to meet demands. Besides these very liquid assets, a currency board was allowed to hold assets that paid interest. The profits made currency boards self-sufficient and able to pay for expenses. Expenses included: wages for the board members, officers, and other staff, rent for branch locations, and costs for printing new notes and minting new coins to replace worn out money in circulation. All the currency board constitutions, except for New Zealand's, specified that government securities (especially those sold by governments within the British Empire) are the only investment allowed unless otherwise specified such as in case of the West African Currency Board. Government securities were generally the safest and most liquid assets on the market, and by allowing currency boards to invest in government debt, governments had access to large institutional buyers.

The constitutions were typically vague about the required amounts and percentage of the total assets to be held in liquid assets such as silver, gold, cash ("gold or silver coin of the realm at English mint prices"[1]), or sterling, except in the case of New Zealand, whose constitution required at least one-fourth of total assets to be held in liquid assets (not securities). Metals such as silver and gold held their value in weight and quality. Discretion on the exact amounts and future changes was often given to the Governor or the British Secretary of State for the Colonies (or, in the case of India, the British Secretary of State for India), who were considered

[1] New Zealand, Paper Currency Act 1847, p. 303.

[2] New Zealand, Paper Currency Act 1847 (11 Victoriae No. 16), p. 302, Section 35.

fairly impartial because they were not employed by the currency board or involved in its everyday operations. If the Governor felt that a larger reserve was necessary, less was invested in risky securities. The Governor was in charge of establishing the ratio in some cases because the government was exposed to risks associated with the currency board's balance sheet. According to all the constitutions, the government had to pay out of its general revenues to the Currency Fund if the value of assets in the currency board's balance sheet fell below the value of liabilities at the end of its accounting period. Government backing of the local currency made the currency even more secure. The role of the government in the operations of the currency board is further elaborated in later sub-sections of this analysis: **"**Policy if Liabilities Exceed Assets," "Procedures for the Distribution of Profits," and "Policy or Managerial Autonomy of the Currency Board from the Government**."**

Over time, currency boards became less and less concerned about holding metals as assets, especially in currency boards formed after World War I when the adherence to the gold standard was weakened by wartime inflation. By the time the British Caribbean Currency Board was formed in 1951, it was no longer necessary to even mention or include silver, gold, or metals of any kind as part of reserves. The pound sterling (which was tied to the price of gold for most of the period from 1821 until the collapse of the Bretton Woods in 1971) became the reserve of choice. In addition, it became standard practice for balance sheet calculations and investments to be denominated in sterling.

Out of the nine currency boards studied, those in India, Ceylon, the Straits Settlements, East Africa, and Palestine had the strictest regulations on the types of assets that can be held. They would have been in line with the modern definition of an orthodox currency board where "[as] reserves, [orthodox currency boards] should hold low-risk, interest-bearing bonds denominated in the anchor currency and typically some gold" (Hanke 2002: 88). The other currency boards had more open-ended policies, especially Southern Rhodesia's currency board, which allowed the "depreciation reserve" of its currency fund (the portion in excess of 100 percent) to be lent out to local banks, invested in public funds, and left at the discretion of approval from its leadership. Even though historical records show that none of the currency boards studied suffered greatly from bad investments in local assets, such investments exposed the boards to political pressure and were less liquid than investments in external securities that could be easily sold in London.

Table 3. Types of Assets the Currency Board Can Hold		
Currency Board	**Yes/No/ Unclear**	**Details**
New Zealand	Yes	Cash of at least one-fourth the value of notes in circulation to be held as reserve, the rest can "be invested or placed out at interest on good and sufficient security by or under the direction of the Governor," gold and silver coins (p. 299, Section 20)
India	Yes	Silver or gold coin or bullion of the Government of India (issued before the currency board), foreign silver or gold coin or bullion, and Government securities (value of securities cannot exceed 40 million rupees) (Section X)
Ceylon	Yes	Silver rupees of India and government securities of British colonies (including India) except for Ceylon (p. 350, Section 13)
Straits Settlements	Yes	Silver coins (p. 1654, Section 4) and government securities of any British colony excluding the Straits Settlements (pgs. 1655-1656, Section 8)
West Africa	Yes	"The Board will maintain in London against the silver coinage a reserve of gold and securities, hereafter referred to as the gold standard reserve" (p. 7, Section 8) with securities meaning "securities of the Government of any part of Her Majesty's dominions, or in any other manner the Secretary of State may approve" (p. 7, Section 14)
East Africa	Yes	British Treasury notes, Bank of England notes, gold coin, cash (p. 4, Section 8), and "securities of the Government of any part of Her Majesty's dominions" (p. 8, Section 15)
Palestine	Yes	Pounds sterling (p. 6, Section 7) and "securities of the Government of any part of His Majesty's Dominions or in such other manner as the Secretary of State may approve" (p. 7, Section 14)
Southern Rhodesia	Yes	"The liquid portion of currency board fund may be in cash or on deposit or in British Government Treasury Bills, or may be lent out at call to banks for short terms or invested in short-term sterling securities" and the other portion may be invested in parliamentary stock, public funds, or Government securities of the United Kingdom, other bonds and stocks that are approved, and gold bullion (p. 9, Section 30)
British Caribbean	Yes	Sterling, "sterling securities of or guaranteed by the Government of any part of the British Empire (except for the participating Governments)," cash, deposit in the Bank of England or in British Treasury Bills, and short-term investments approved by the Secretary of State (pgs. 248-249, Section 3)

Prohibition against Holding Domestic Assets

Going into more detail on points from the previous section, one of the features of an orthodox currency board is that the board is not allowed to invest in domestic government securities or other domestic assets. Without this requirement, it is possible for the local government to pressure the board to print currency to fund government debt. Printing money in exchange for bad government securities can lead to high inflation and a possible default by the currency board when the value of its liabilities exceeds the value of its assets and the government is not in a financial position to back the currency.

However, as shown in the chart below (using the same details from the constitutions as the previous section), only constitutions in Ceylon, the Straits Settlements, and the British Caribbean specifically state that domestic government securities could not be purchased. The other constitutions do not address the purchase of domestic government securities.

There may have been a number of reasons why the governments that formed the currency boards did not initially address the issue of domestic government securities. At the time, government default in British territories was not seen as a major risk. In the case of Southern Rhodesia, short-term government securities were considered fairly liquid and were held in limited amount, counting towards the "currency reserve" portion of the currency fund (the first 100 percent of assets) and not the "depreciation reserve" (the portion in excess of 100 percent). There was also minimal risk of the local government abusing its power to force the currency board to buy its debt since the territories had British oversight and kept careful records of transactions.

Therefore, it is more interesting to explore the reasoning behind the specific restrictions against holding domestic government securities placed upon the Ceylon, Straits Settlements, and the British Caribbean currency boards. It could have been that at the time British currency experts were worried about the risk associated with the government securities in these particular territories or simply wanted to make sure the currency boards diversified their assets with assets from other parts of the Empire. Another possible explanation is that experts in charge of putting together the constitutional documents had opposing opinions on the riskiness of holding domestic government securities and some chose to have the restriction in place. Although no pattern seems to emerge as to which constitutions have the restriction, it is important to note that the constitutions analyzed are only the founding documents, so later amendments or attached appendices may have more details on the matter and reveal a trend.

In terms of adhering to the rule that orthodox currency boards should not hold domestic government securities to prevent possible abuse and high inflation, only the currency boards in Ceylon, Straits Settlements, and the British Caribbean qualify. The other currency boards have constitutions that are much more vague. Often the British Secretary of State for the Colonies had the power to grant a waiver that he never was asked to exercise or never granted, making those currency boards more orthodox in practice than they could have been in principle.

Table 4. Prohibition against Holding Domestic Assets		
Currency Board	**Yes/No/ Unclear**	**Details**
New Zealand	No	Cash of at least one-fourth the value of notes in circulation to be held as reserve, the rest can "be invested or placed out at interest on good and sufficient security by or under the direction of the Governor," gold and silver coins (p. 299, Section 20)
India	No	Silver or gold coin or bullion of the Government of India (issued before the currency board), foreign silver or gold coin or bullion, and Government securities (value of securities cannot exceed 40 million rupees) (Section X)
Ceylon	Yes	Silver rupees of India and government securities of British colonies (including India) except for Ceylon (p. 350, Section 13)
Straits Settlements	Yes	Silver coins (p. 1654, Section 4) and government securities of any British Colony excluding the Straits Settlements (pgs. 1655-1656, Section 8)
West Africa	No	"The portion of the gold standard fund authorised to be invested may be invested in securities of the Government of any part of Her Majesty's dominions, or in any other manner the Secretary of State may approve" (p. 7, Section 14)
East Africa	No	"The Board may invest their funds in securities of the Government of any part of Her Majesty's dominions, or in such a manner as the Secretary of State may approve" (p. 8, Section 15)
Palestine	No	"The Board may invest its fund in securities of the Government of any part of His Majesty's Dominions or in such other manner as the Secretary of State may approve" (p. 7, Section 14)
Southern Rhodesia	No	"The liquid portion of currency board fund may be in cash or on deposit or in British Government Treasury Bills, or may be lent out at call to banks for short terms or invested in short-term sterling securities" and the other portion may be invested in parliamentary stock, public funds, or Government securities of the United Kingdom, other bonds and stocks that are approved, and gold bullion (p. 9, Section 30)
British Caribbean	Yes	"The Fund may be invested in sterling securities of or guaranteed by the Government of any part of the British Empire (except for the participating Governments)" (p. 248, Section 3)

Minimum Reserve Ratio against Monetary Liabilities

The minimum reserve ratio refers to the share of the currency fund devoted to a "liquid" portion as opposed to a less liquid "investment" portion. There is no current standard concerning the exact amount or ratio an orthodox currency board should hold in its liquid reserve. The reserve is usually composed of cash, gold, and short-term government securities and is designed to meet the anticipated every-day demand for exchange (convertibility).

Only the constitutions of the earlier currency boards in New Zealand, India, Ceylon, and Straits Settlements included specific amounts or ratios that must be held in the liquid portion of the fund. The minimum ratio was typically half of total notes and coins in circulation, because the everyday exchange between local currency and reserve currency would under normal circumstances not come close to exceeding this amount (only a bank run would have caused higher amounts of exchange). A lower ratio would have allowed a currency board to invest more in risky assets that yield returns, which then would have increased the board's income and the coffers of the general government that received the excess profits.

The currency boards formed later in West Africa, East Africa, Palestine, Southern Rhodesia, and the British Caribbean had more flexible policies and usually allowed the Governor or Secretary of State to fix the minimum from time to time. In the chart below, these boards were marked as "Yes/Unclear." The advantage of flexibility was that the currency board could respond to changes in the economy if certain circumstances led to individuals exchanging currency at higher volumes or to securities becoming more risky. Since the general government had to pay into the currency fund if its value fell below 100 percent of currency in circulation, it was in the best interest of the government to have control of the minimum reserve ratio. Therefore, the transition towards a policy with more flexible minimum reserve ratios meant that the Governor and the British Secretary of State were trusted to make the proper decisions, which made the currency board and the government in theory more adaptable to changing economic conditions.

Another interesting development in reserves was the location in which they were held. Early currency boards held most of their reserves locally because local specie and other forms of money were converted into notes and coins circulated by the currency boards. Holding reserves locally allowed the boards to easily maintain convertibility. However, convertibility and bank runs were not seen as serious threats as currency boards became more widely adopted throughout the Empire. Therefore, in later currency boards such as Southern Rhodesia (1938) and the British Caribbean (1951), almost all reserves were held in London. One reason for this practice was that it gave the British government more control of the territories since they held a non-negligible portion of the territories' wealth. In addition, the Crown Agents for the Colonies, which many currency boards empowered to act as their financial trustee in London, invested a large share of currency board reserves in British national government securities and a smaller but still substantial share in British local government securities. This new practice also caused currency boards around the Empire to shift towards holding more sterling securities as reserves and away from holding specie.

Since there is no defined minimum reserve ratio for a currency board to qualify as orthodox, as long as proper analysis has been conducted to arrive at an amount of reserves necessary to meet convertibility demands, all the currency boards here qualify as orthodox in this respect.

Table 5. Minimum Reserve Ratio against Monetary Liabilities		
Currency Board	**Yes/No/ Unclear**	**Details**
New Zealand	Yes	Cash of at least one-fourth the value of notes in circulation to be held as reserve (p. 299, Section 20)
India	Yes	"The whole amount of the bullion and coin so received for Notes shall be retained and secured as a reserve to pay such Notes, with the exception of such an amount, not exceeding four crores [40 million] of Rupees, as the Governor-General in Council, with the consent of the Secretary of State for India, shall from time to time fix" (Section X)
Ceylon	Yes	"Retain a reserve in silver coin of one-half at the least of the amount of currency notes in circulation" (p. 350, Section 12)
Straits Settlements	Yes	Silver coin in the Note Guarantee fund must be no less than one-half of notes in circulation under any circumstance (p. 1655, Section 7)
West Africa	Yes/ Unclear	"The proportion of such reserve held in gold shall not fall below a limit to be fixed from time to time by the Secretary of State" (p. 7, Section 9)
East Africa	Yes/ Unclear	"A limit fixed from time to time by the Secretary of State" (p. 8, Section 17)
Palestine	Yes/ Unclear	“Subject to any directions which may be received from the Secretary of State, a proportion of its reserve [must be] in liquid form” (p. 7, Section 14)
Southern Rhodesia	Yes/ Unclear	"A proportion of the fund shall be held in London in liquid form, and such proportion may be determined and varied from time to time by the Board” (p. 9, Section 30)
British Caribbean	Yes/ Unclear	"A proportion of the Fund shall be held in London in liquid form and such proportion may be determined and varied from time to time with the approval of the Secretary of State by the Board" (p. 249, Section 3)
Note: Certain currency boards counted government securities towards their liquid reserves and some counted them towards the investment portion of their funds.		

Policy if Liabilities Exceed Assets

Since the currency boards held assets that faced the risk of losing value, determining if and what kind of policy exists for the situation where the value of liabilities exceeds the value of assets gives insight into how much the lawmakers saw this as a risk. All the constitutions studied have measures in place to prevent the currency funds from reaching insolvency (e.g. minimum reserve ratios and government oversight). Therefore, not surprisingly, most currency board constitutions also contained concrete policies in the event of insolvency.

All of the constitutions, except for those for West Africa and East Africa, explicitly state that payment in cash of all notes and coins in circulation are chargeable against the general revenue of the territorial governments if the currency boards do not have the ability to exchange them for the specified anchor currency or asset. Since all currency boards held securities, they faced the possibility that their investments might go bad through default by the issuer. In addition, many currency boards also held gold and silver in their reserves, so depreciation was a concern in cases where there were large holdings of one metal (usually silver) but the anchor currency was tied to another metal (usually gold).

With these risks in mind, most of the constitutions use similar language to describe how the government was ultimately responsible for upholding the currency, which is why the exclusion of such a policy in the currency board constitutions for West Africa and East Africa was surprising. The currency boards formed before and after them had such a clause. In East Africa, the currency board, fully supported by member governments, accepted silver coins for conversion into the board's sterling-based currency at a rate that proved to be too high, leaving the board with a hole in its balance sheet. During the Great Depression the hole got bigger. East African governments pledged to lend up to £1.5 million to replenish the board's foreign reserves if they became exhausted (East African Currency Board annual report 1933: 5, 10-15), which however did not happen. Not until 1946 did the board's years-long retention of profits eventually close the hole (East African Currency Board annual report 1946: 7). Therefore, the existence and acceptance of ad hoc agreements can explain the lack of formal procedures.

West Africa and East Africa were clearly exceptions to the norm because all the other constitutions had procedures for insolvency that were getting more sophisticated and not the other way around. Starting with Ceylon, currency boards were required to add to and maintain "depreciation funds" for the specific purpose of covering potential losses and preventing liabilities from exceeding assets. In general, one percent of profits from seigniorage and investments were placed into the funds every year. Although the likelihood of a currency board in the British Empire going insolvent was very low, lawmakers saw the necessity for having procedures in place for accountability purposes. It was important that the currency was fully backed by the currency board and government for the public to trust and adopt the currency.

In terms of trends, the Straits Settlements currency board constitution was one of the first documented instances of the "110 percent rule," where the currency board had to add to the depreciation fund until total assets (currency reserve and depreciation reserve combined) equaled 110 percent of liabilities. Orthodox currency boards have since adopted this "110 percent rule", although the "rule" is more of a general guideline rather than a requirement. In addition, the money in the depreciation fund can oftentimes be invested. With the exception of the currency boards of West Africa and East Africa, all the boards here can be considered orthodox since they have clauses that stipulate the procedures and responsibilities in case the value of liabilities exceeded the value of assets.

Table 6. Policy If Liabilities Exceed Assets		
Currency Board	**Yes/No/ Unclear**	**Details**
New Zealand	Yes	“The ultimate payment in cash of all notes to be issued or reissued shall be charged and chargeable upon the general revenue of the Colony of New Zealand” (p. 299, Section 19)
India	Yes	“A tender of a Note or Notes issued under this Act […] shall be legal tender to such amount expressed […], and shall be taken to be taken to be valid as a tender to such amount in payment of any revenue or other claim […] due to the Government of India" (Section XVI)
Ceylon	Yes	“Currency notes shall be held to have been issued on the security of the said coin and securities [(in the reserve)] as well as on the general credit of the Government of Ceylon” (p. 350, Section 14), and the currency board is suggested to add to and have access to a depreciation fund which takes one percent of profits from investments each year (p. 351, Section 18)
Straits Settlements	Yes	“If a sum is required to meet the sum any such note and the said moneys are insufficient to meet it the sum shall forthwith on the demand of the Commissioners be issued under the order of the Governor out of that general revenue” (p. 1654, Section 4), and the currency board must create a Depreciation fund that holds not less than ten percent of the value of the investment portion of the Note Security fund (the assets held by the board) (p. 1656, Section 9)
West Africa	No	
East Africa	No	
Palestine	Yes	"Any losses which may be incurred will be debited to the [Currency Reserve] Fund” (p. 7, Section 13) and the board must “provide a reasonable reserve against possible depreciation” (p. 7, Section 20), and failing to pay the bearer of a currency note holder by the Board will be a charge against the general revenues of Palestine (p. 11, Section 2)
Southern Rhodesia	Yes	“If on the last day in any financial year there is a deficiency in the income account, such deficiency shall be met from moneys to be appropriated by Parliament from the revenues of the Colony” (p. 10, Section 34)
British Caribbean	Yes	"If the value of the Fund calculated […] at any time be less than the face value of the currency notes and coin in circulation […] each participating Government shall be liable” and “should one or more of the participating Governments make default […] the other participating Governments shall be liable to make good such default” (p. 254, Section 6)

Procedures for the Distribution of Profits

One of the most important features of currency boards is the ability to generate profits that can benefit the finances of their respective general governments. Their investments should create small profits under normal circumstances, since currency boards generally make conservative financial decisions. In addition, many of the currency boards studied in this working paper were permitted to earn commission fees. The Palestine Currency Board constitution, for instance, allowed the currency board to earn "proceeds [from] sale of coin and currency notes" and also allowed "[it to] charge for coin or currency notes to be delivered in Palestine against prepayment in London such premiums not exceeding 1 per cent above the nominal value" (Palestine Currency Board annual report 1928: 6, 7). Since the currency boards anticipated profits, it follows that their constitutions contained sections pertaining to the distribution of profits. However, these distribution procedures also have their nuances and these nuances reveal many trends over time such as risk perception and the relationship between currency boards and their local governments.

From the New Zealand currency board constitution (1847) to the British Caribbean Currency Board constitution (1951), the evolution of procedures for the distribution of profits shows that over time currency boards became more wary of investment risks and continued to maintain close relationships with their local governments when it came to sharing the risks and profits. As stated in the previous section, some later currency boards had a more cautious attitude toward investment risks and placed some proceeds into a depreciation fund. When it came to the distribution of profits that remained after covering operational expenses and the depreciation fund, it was standard practice, from as early as the New Zealand currency board, to pay the surplus to the local colonial/territorial government as part of general revenue. Since the general government had to share the risk of backing the local currency notes and coins in circulation, it follows that it also shared the profits.

Although the general ideas behind profit distribution remained very similar over the years, the mechanisms through which the profits were distributed became more standardized and procedural. Prior to the enactment of Southern Rhodesia's currency board constitution in 1938, the constitutions studied provided few details on how the transfer of profits would take place and simply stated that the transfer would occur once several conditions were met. The Southern Rhodesian Currency Board was the first to have an "Income Fund" in its constitution and the British Caribbean Currency Board followed suit with a "Currency Fund Income Account" that held all profits before they were disbursed. For accounting purposes, it was easier to manage and keep track of money in one place, separate from other assets in other funds. Rules were also established. In general, profits were supposed to first cover operational costs, then add to the depreciation fund to maintain 110 percent backing, and finally supplement local government revenues. Even though the constitutions did not specify when profits were to be disbursed, it was typically at the end of the fiscal year when annual operational costs were calculated. It is also unclear if the currency boards were allowed to use proceeds held in the "Income Fund" to purchase short-term securities.

In terms of orthodoxy, all of the currency boards studied qualify as orthodox regarding this criterion because they have explicit clauses that declare how profits were meant to be used and disbursed. The general reliability and self-sufficiency (and oftentimes profitability) of currency boards were hallmark characteristics that made them very popular.

Table 7. Procedures for the Distribution of Profits		
Currency Board	**Yes/No/ Unclear**	**Details**
New Zealand	Yes	Profits will "[first be applied to] defraying the expenses incurred in conducting the business […] and the surplus if any shall be paid to the Colonial Treasurer for the public uses of the colony" (p. 300, Section 22)
India	Yes	"The interest accruing due on the Government Securities […] shall, from time to time, as it becomes due, be paid […] into the revenues of the Government of India" (Section XV)
Ceylon	Yes	"Dividends, interest, or revenue shall form part of the ordinary revenues of the colony excepting the sum of one per centum which shall be appropriated annually […] to cover any eventual risk of depreciation in value of the investments [and placed into a] 'depreciation fund' [if a reason for the fund exists]" (p. 351, Section 18)
Straits Settle-ments	Yes	"The income derived from securities shall be applied – (a) in paying the expenses of and incidental to the execution of the Ordinance; and (b) in the payment of a sum equal to one per cent of the cost price of the securities to a Depreciation fund; and (c) […] as part of the ordinary revenue of the Straits Settlements" (p. 1656, Section 8)
West Africa	Yes	If the Secretary of State deems "that the gold standard reserve is sufficient to ensure the convertibility of silver currency, the Board may pay over the whole or any part of the surplus amount in aid of the revenues of the West African Governments" (p. 7, Section 11)
East Africa	Yes	"Profits […] after the necessary deductions have been made to for expenses of administration, be credited respectively to the funds hereinafter referred to as 'the Silver Coinage Fund,' 'the Nickel-Bronze Coinage Fund,' and 'the Note Guarantee Fund'" (p. 8, Section 13), and "when the Board are satisfied that their reserves are more than sufficient [they may] pay over the whole or part of the surplus amount in aid of the revenues of the Dependencies in East Africa" (p. 9, Section 21)
Palestine	Yes	"When the board is satisfied that its reserves are more than sufficient to ensure the convertibility of the currency […] the Board may pay over the whole or part of the surplus amount in aid of the reserves of Palestine" (p. 7, Section 20)

Southern Rhodesia	Yes	"All dividends, interest or other revenue […] shall be paid into an account to be called the income account" where general expenses incurred by the Board will be deducted from and where "sum equal to one per centum of the face value of all Southern Rhodesian coin and currency notes in circulation […] shall be paid annually into the [currency] fund as a reserve against the depreciation of the assets of the fund" (p. 10, Section 32), and if the value of the fund exceeds one hundred and ten per cent of the face value of Rhodesian notes and coins in circulation then the one per cent annual appropriation can stop and the excess can be transferred to the income account (p. 10, Section 35)
British Carib-bean	Yes	All dividends, interest, or other revenue will be paid into an account called the "Currency Fund Income Account" and charges against the account include: general expenses incurred by the Board and an amount equal to one per cent of the value of the Currency Fund that will be added to the Fund (p. 250, Section 4), and if on the last day of the financial year the value of the Fund exceeds one hundred and ten per cent of the face value of notes and coins in circulation, the annual one per cent appropriation out of the Income Account can discontinue and the excess can be transferred from the Fund and to the Income Account (p. 252, Section 4), and the participating Governments are entitled to share the surplus (p. 252, Section 5)

Policy or Managerial Autonomy of the Currency Board from the Government

One of the most important characteristics of an orthodox currency board is that the board must operate independently from the general government. It cannot be influenced or be controlled in its day-to-day operations by policy decisions of the government. Not surprisingly, since all of the currency boards studied in this working paper were colonies and territories of the British Empire at the time the constitutions were written, they all failed to have policy or managerial autonomy from the government.

As shown in Table 8 and in the details from previous sections, the general governments ultimately had final say in most decisions such as the appointments to the top positions in the currency boards, the required proportion of assets to be invested in securities, and the types of securities that could be held. Even though such control did not lead to major financial problems for the currency boards, it provided opportunities for abuses of power. Since the Governor or Secretary of State appointed staff, the process could involve patronage. (Typically, though, some or all of the positions on a currency board's directorate were by custom assigned by position and not by person, so that for instance the colonial treasurer and auditor were members of the directorate.) The proportions of assets to be invested set by the government official might have conflicted with the proportions desired by the currency board. A major source of unorthodoxy in most of the currency boards studied in this working paper was that the general governments determined the types of securities that the boards could hold. In terms of government securities, most boards were limited to purchasing securities from other territories in the British Empire (and sometimes were even allowed to purchase domestic government securities), which was lower diversification than was readily achievable because all of their economies were connected through the mother country. The colonies were essentially buying each other's debt, which could have had severe consequences.

The most glaring potential for government abuse can be seen in a statement in New Zealand's currency board constitution where it states that the "it shall be lawful for the Governor from time to time to make […] rules and regulations."[2] Even though it was necessary to make amendments to the constitution to adapt to changing environments, providing the Governor with essentially sole discretionary power over the amendments prevented the currency board from acting independent of the government's interests that had to potential to conflict with the board's best interests.

However, even though the Crown and the general government representatives ultimately had control over the currency boards, the currency boards' constitutions had provisions to retain some autonomy to prevent abuse. The provisions yield insights into the early features of currency board independence from government. One important feature shared by all currency boards was 100 percent backing for liabilities so they could not be pressured by the government to simply print more money to cause inflation. In theory, the government could still make amendments to the currency board constitution such as in the case of New Zealand, but the currency board system worked in such a way that it was essentially impossible for the government to lower the limit without damaging the colony's economy. All the provisions count on the board having at least 100 percent backing of liabilities. If the currency board could not maintain convertibility, the government was still liable for the maintaining the convertibility and the government would also have to deal with a loss in confidence in the notes and coins in circulation and a possible bank run.

Overall, governments had the incentive to act in the best interest of currency boards since their risks and rewards were interconnected, so it is easy to see that this relationship would function without conflict during normal economic times. However, when economic crises hit, the lack of currency board independence would have allowed the Governor or Secretary of State to manipulate the system to try to solve the problems but potentially create even larger issues. Without policy and managerial independence from the government, none of the currency boards studied can be considered orthodox.

[2] New Zealand, Paper Currency Act 1847 (11 Victoriae No. 16), p. 302, Section 35.

Table 8. Policy or Managerial Autonomy of the Currency Board from the Government		
Currency Board	Yes/No/ Unclear	Details
New Zealand	No	"Every such Manager and officer shall hold his office during Her Majesty's pleasure" (p. 298, Section 3), and "it shall be lawful for the Governor from time to time to make […] rules and regulations" (p. 302, Section 35)
India	No	The Governor-General of India has the power to appoint head officials of the currency board (Section IV), alter or extend the limits of branches within the currency board (Section V), and order board officials to sell government securities when he deems necessary (Section XIV)
Ceylon	No	Appointments of officers in the currency board must be sanctioned by the Governor (p. 348, Section 3), and the Governor and Secretary of State for the Colonies have ultimate say in the amount and types of investments made (p. 350, Section 13)
Straits Settlements	No	"The accounts of all transactions of the Commissioners under this Ordinance shall be audit [and be in] accordance with such regulations as a Secretary of State directs" (p. 1656, Section 10)
West Africa	No	"The members of the Board and the Secretary are appointed by the Secretary of State" (p. 7, Section 2) and investments may be made in "such other manner as the Secretary of State may approve" (p. 7, Section 14)
East Africa	No	"The members of the Board and the Secretary are appointed by the Secretary of State" (p. 7, Section 2), and the Board can invest in Government securities in a manner approved by the Secretary of State (p. 8, Section 15)
Palestine	No	"The members of the Board and the Secretary are appointed by the Secretary of State" (p. 6, Section 2), and the Board can invest in Government securities in a manner approved by the Secretary of State (p. 7, Section 14)
Southern Rhodesia	No	"The Board shall be appointed by the Governor" (p. 2, Section 4) and the Governor has the "power to regulate coinage and currency notes by proclamation" in the *Southern Rhodesia Gazette* (p. 12, Section 41)
British Caribbean	No	"'The Board' […] shall consist of five members to be appointed by the Secretary of State [and Governors of the five territories in the British Caribbean]" (pgs. 244-245, Section 1)

Conclusion

The founding documents for the British Empire currency boards of New Zealand, India, Ceylon, Straits Settlements, West Africa, East Africa, Palestine, Southern Rhodesia, and the British Caribbean reveal major trends that shaped practices for currency boards around the world. They contributed to the formation of an "orthodox" currency board definition that is generally accepted by contemporary economists. To study the development of currency board practice we examined seven criteria: (1) exchange rate to anchor currency, (2) types of assets the currency board can hold, (3) prohibition against holding domestic assets, (4) minimum reserve ratio against monetary liabilities, (5) policy if liabilities exceed assets, (6) procedures for the distribution of profits, and (7) policy or managerial autonomy of the currency board from the government. By comparing these characteristics across currency boards, we saw how practices were adopted and amended over the years and progressed towards the currency boards and quasi currency boards of today such as those in Bulgaria and Hong Kong.

Important developments observed in successive currency boards include: the creation of depreciation funds, the adoption of the 110 percent backing practice, and the adoption of holding reserves entirely in financial assets rather than in precious metals. These developments made the 110 percent backing of liabilities and holding only financial assets as reserves become the norm. Another rule that emerged out of the evolutionary process of currency boards in the British Empire was the practice against holding domestic securities due to potential investment risks and possibilities of government abuse of the financial system to fund public debt.

Most of the seven characteristics studied remained relatively constant throughout successive currency boards and became cornerstones of orthodox currency board policies, such as the establishment of a fixed exchange rate between the local and anchor currencies, the avoidance of risky investments, the application of a minimum reserve ratio, the creation of policies for the situation where value of liabilities exceeds the value of assets, and the formulation of procedures for the distribution of profits.

A major difference between the currency boards of the British Empire and contemporary boards lies in policy or managerial autonomy from the government. In many ways, the currency boards studied were controlled by the British colonial officials presiding over the colonies. Political independence movements in the 20th century naturally allowed currency boards to exist without regulation and oversight from a foreign government. In addition, the standardization of currency board practices made it the norm for orthodox currency boards to maintain a great degree of independence from the domestic government. By distancing themselves from economic policy and other maneuverings of their respective general governments, currency boards are able to efficiently perform their main function, which is to supply a stable, convertible currency that facilitates market exchange.

With a proven track record of self-sufficiency and profitability, and now greater autonomy from domestic governments, currency boards today are arguably improved compared to their British Empire counterparts. If a country is looking for economic and currency stabilization, installing the orthodox currency board system, which has been perfected over a century and a half of experimentation and development, is a straightforward solution.

Source Documents

The original currency board constitution documents were downloaded or photographed and converted into PDF format, and will be available online on the website of the Institute for Applied Economics, Global Health and Study of Business Enterprise at The Johns Hopkins University.

References

Internet material was viewed in September 2014.

General References

Marie-Thérèse Camilleri Gilson. "An Institutional Framework for Comparing Emerging Market Currency Boards." Working Paper. International Monetary Fund, September 2004. <http://www.imf.org/external/pubs/ft/wp/2004/wp04180.pdf>.

Steve H. Hanke. "Currency Boards." Annals of the American Academy of Political and Social Science, no. 579: 87-105. January 2002.

Johns Hopkins University, Institute for Applied Economics, Global Health, and the Study of Business Enterprise, "Digital Archive on Currency Boards". <http://krieger.jhu.edu/iae/digitalarchive/>

Corinne Ho. "A Survey of the Institutional and Operational Aspects of Modern-Day Currency Boards." Working Paper. Bank for International Settlements, March 2003. <http://www.bis.org/publ/work110.pdf>.

S. K. Tsang. "Legal Frameworks of Currency Board Regimes." *Quarterly Bulletin*. August 1999. Hong Kong Monetary Authority. <http://www.hkma.gov.hk/media/eng/publication-and-research/quarterly-bulletin/qb9908/fa03.pdf>.

Currency Board Constitutions

BRITISH CARIBBEAN

Deryck R. Brown. *History of Money and Banking in Trinidad and Tobago from 1789 to 1989*. Port of Spain: Central Bank of Trinidad and Tobago, 1989.

CEYLON

"The Ceylon Paper Currency Ordinance, 1884 (Ordinance No. 32 of 1884)." *A Revised Edition of the Ordinances of the Government of Ceylon Volume II (1883-1889)*. Colombo (Ceylon), H. C. Cottle (Acting Government Printer), 1898.

EAST AFRICA

Report of the East African Currency Board for the Year Ended 30th June, 1921. London: His Majesty's Stationery Office, 1922.

Report of the East African Currency Board for the Year Ended 30th June, 1933. London: His Majesty's Stationery Office, 1933.

Report of the East African Currency Board for the Year Ended 30th June, 1946. London: His Majesty's Stationery Office, 1946.

INDIA

"An Act to provide for a Government Paper Currency (Act No. XIX of 1861)." *Acts Passed by the Legislative Council of India in the Year 1861*. In India, Ministry of Law and Justice Web site, <http://lawmin.nic.in/legislative/textofcentralacts/1861.pdf>.

NEW ZEALAND

"Paper Currency Act 1847 (11 Victoriae 1847 No. 16)." Australian Legal Information Institute Web site, <http://www.austlii.edu.au/nz/legis/hist_act/pca184711v1847n16291.pdf>.

PALESTINE

Report of the Palestine Currency Board for the period ended 31st March, 1928. London: Waterlow & Sons Limited.

SOUTHERN RHODESIA

"Coinage and Currency Act, 1938 (No. 32 of 1938)." *Colony of Southern Rhodesian Government Gazette, 1938*. Salisbury (now Harare).

STRAITS SETTLEMENTS

"The Currency Note Ordinance 1897 (Ordinance No. VIII of 1897)." *The Acts and Ordinances of the Legislative Council of the Straits Settlements, From the 1st April 1867 to the 7th March 1898*. London: Eyre and Spottiswoode.

WEST AFRICA

Report of the West African Currency Board For the Year Ended 30th June, 1914. London: His Majesty's Stationery Office, 1915.