



International Journal of Community Currency Research

VOLUME 30 No.1 (2026) 114-126

A SUSTAINABLE MIRACLE? EXAMINING THE LONG-TERM VIABILITY OF THE WÖRGL EXPERIMENT

Jeremy September¹

¹ *University of Hyogo, Japan, jeremyseptember@gmail.com*

ABSTRACT

The Wörgl Experiment has long been celebrated as an economic success story. Amongst CC advocates the Wörgl Experiment is often seen as an example of the potential CCs have for enacting spectacular economic development at the regional level. However, despite its success, the experiment was short-lived, and thus questions regarding its long-term viability remain unanswered. The primary aim of this paper is to investigate the long-term viability of the Wörgl Experiment. This paper finds that due to the incomplete picture of how the Wörgl labor certificates and the Austrian Schilling circulated concurrently, questions on the long-term viability of the Wörgl Experiment will remain largely unanswered. However, a key contribution of this paper is that it uncovers a potential inconsistency in the data related to redemption of the Wörgl labor certificates for Austrian Schilling. This finding reframes the current understanding of the Wörgl Experiment as the amount of labor certificates redeemed for Austrian Schillings and its implications have not been discussed in the literature. This paper also examines the long-term implications for running a tax-based municipal currency. Based on the above-mentioned examination and consultation with historical literature, recommendations are put forward for how a taxed-based CC can continue to circulate in non-crisis conditions.

KEYWORDS:

Wörgl Experiment, Viability, Long-Term, Taxable, Community Currency

1. INTRODUCTION

1.1. *The "Miracle" of Wörgl*

The Wörgl Experiment that took place in the Austrian town of Wörgl has long been celebrated as an economic success story that was hailed as a "Miracle" and "Economic Mecca" (Bourdet, 1934, p.58), as well as a "shrine for macroeconomists" (Schwarz, 1951) by contemporary observers. Irving Fisher's book "Stamp Scrip" (Fisher and Cohnsen, 1933) pays homage to the effectiveness of the Wörgl Experiment and his economic recommendations to then presidential candidate Franklin Roosevelt were strongly influenced by its results (Blanc, 1998, p.476; Fuders, 2023, p.312). The Wörgl Experiment has also inspired admiration in modern-day popular culture and media. Environmental activist George Monbiot referred to it in hyperbolic terms as a "thrilling, transformative system that almost saved Europe from fascism" (Monbiot, 2015) and in 2018 a film titled "Das Wunder von Wörgl", based on the real events of the Wörgl Experiment, was released and is available to stream on Amazon Prime (IMDb, 2024).

Amongst community currency (CC) advocates the Wörgl Experiment is often touted as a prime example of the kind of socio-economic impact that CCs can have at the local level (Lietaer, 2001). In the case of Wörgl, the town, crippled by debt and rampant unemployment during the Great Depression, saw a remarkable revival of fortunes when the mayor implemented a distress relief program in the form of a CC (Lietaer, Kennedy and Rogers, 2012; Onken, 1983). The Wörgl distress relief program has been described by CC researchers as one of the best-known applications of the stamp scrip idea (Lietaer, 2001, p.173) and a "brief glimmer of hope" preceding Austria's fascist dictatorship (Gelleri, 2023, p.153). Additionally, even though the idea of CCs did not originate in Wörgl, the Wörgl Experiment has served as a reference point for modern CCs long after it ended (Blanc, 1998, p.480). In fact, Gelleri (2023, p.153) states that the Wörgl Experiment has succeeded in introducing a blueprint that has become the model for other successful CCs such as the WIR system (Studer, 1998), The Chiemgauer (Tóth, 2011) and the Sardex (Sartori and Dini, 2016). Lastly, in light big tech companies creating their own currencies, Barinaga (2020) made use of the Wörgl Experiment as a case study at Harvard Business Publishing to provide students with insight into monetary innovations. It is therefore no understatement to say that the Wörgl Experiment represents a pivotal episode in CC history as well as a significant demonstration of the utility of CCs.

The experiment was indeed quite successful at reviving the economic fortunes of the town of Wörgl. Before its implementation, the town faced dire economic circumstances. Out of 4300 inhabitants, about 350 (with 200 receiving no unemployment benefits) were unemployed, and the surrounding areas accounted for another 1500 unemployed individuals (von Muralt, 1934, p. 48). Due to the economic crisis tax collection had stalled and the town was unable to implement much needed infrastructure repair such as the asphaltting of the main street which was in a dreadful condition (von Muralt, 1934, p. 53). Following the implementation of the emergency money program, tax revenues rose by 34.4%, tax arrears decreased by 53.8%, and municipal investment expenditure increased by 219.7% (Broer, 2007: p. 127). This investment expenditure was due to an impressive public works program almost completely funded by the emergency money that included rebuilding and asphaltting 4 miles of road, improving 12 roads, planting trees, sewerage repairs, building canals, a new concrete bridge, new streetlights, a ski jump and many other infrastructure projects that totalled around 100,000 Schillings in cost (Fisher and Cohnsen, 1933; Unterguggenberger, 1957: p. 45). As a result of these numerous infrastructure projects unemployment dropped by 25% (Schwarz, 1951). To put this drop in unemployment into perspective, during the same period unemployment throughout Austria had increased by 19% (Ottacher, 2002: p. 61), revealing the stark differences between Wörgl's fortunes and the rest of Austria caused by the implementation of the emergency campaign in the midst of the Great Depression.

1.2. *Research Purpose*

Despite its success, the Wörgl Experiment was short lived, running for about a year and 2 months, and thus questions regarding its unfulfilled long-term potential or viability remain unanswered. The fact that it was forcibly shut down by the Austrian central bank (Unterguggenberger, 1934) and did not collapse by itself is a mitigating factor. Certainly, proponents of the experiment feel that it ended "not because of intrinsic faults in the money used", but due to the intervention of "hostile forces." (Schwarz, 1951) However, despite the Wörgl Experiment's status in the field of CCs, the question of its long-term viability has never been explored within CC literature. Even Irving Fisher who was a vocal supporter of the Wörgl Experiment and its underlying economic philosophy, believed CCs, or stamp scrip, as he called it, should only serve the temporary purpose of "priming the pump". He then writes that,

stamp scrip, “having fully performed its temporary and incidental office, can automatically retire.” (Fisher and Cohnsen, 1933, Chapter 1). Thus, given the Wörgl Experiment’s status in the field of CCs and the lack of an examination of its long-term potential, the purpose of this paper is to answer the following 2 questions:

1. What is the possibility that the Wörgl Experiment could have continued its viability over the long-term?
2. What are the key factors that would have influenced its long-term viability?

To contextualize these questions, this paper will firstly provide a summary of the economic philosophy underlying the Wörgl Experiment. This will be followed by a detailed description of the experiment itself using all available contemporary and secondary sources. Finally, the experiment is discussed in terms of the broader CC theory and literature and conclusions are drawn.

1.3. The Wörgl Experiment’s Underlying Philosophy

1.3.1. Silvio Gesell

The economic philosophy underlying the Wörgl Experiment originated from a German businessman and economist, Silvio Gesell (1862-1930), who, as a self-taught economist built up a faithful community of adherents who numbered in the hundreds of thousands around the turn of the 20th century (Studer, 1998, p.8). Gesell’s overall objective “as a social reformer was to attack rentier capitalism and to substitute in its place an interest-free society.” (Dillard, 1942). While he was considered a “crank” and “untrained” by most economists of his time, two prominent economists, Maynard Keynes and Irving Fisher, both acknowledged his contributions to the field of economics (Keynes, 1936; Fisher and Cohnsen, 1933). Maynard Keynes referred to him as an “unduly neglected prophet... whose work contains flashes of deep insight and who only just failed to reach down to the essence of the matter.” (Keynes, 1936). Irving Fisher, despite expressing reservations about Gesell’s theory of interest, believed that his Stamp Scrip idea (explained below) could be a useful invention in the context of the Great Depression (Fisher and Cohnsen, 1933).

Gesell, after relocating to Argentina at the age of 24 to engage in foreign trade and manufacturing, transformed from businessman to economist as a result of his own experience at the hands of the severe Argentinian economic depression in the 1890s (Keynes, 1936, Dillard, 1942, Blanc 1998). A series of books followed this transformation culminating in a major work titled *The Natural Economic Order* (Gesell, 1958), which was originally published in 1911, and then reprinted and translated several times in different languages (Dillard, 1942; Blanc, 1998). In his theories Gesell identified the stockpiling of wealth as something to be avoided as it inhibited revenue flow. Additionally, the slowing of monetary flow had to be prevented, which led him to contemplate how both wealth stockpiling and sluggish monetary circulation could be prevented or curtailed (Blanc, 1998). Gesell boldly proposed two formulae for “Free-land” and “Free-Money” to overcome these issues (Gesell, 1958) and it was the latter concept that was experimented with in Wörgl.

1.3.2. Gesell’s Free Money

Disregarding all other functions of money, Gesell firmly believed that money was “an instrument of exchange and nothing else”, and that the criterion for good money was that it secured, accelerated and cheapened the exchange of goods (Gesell, 1958). He argued that gold was a poor form of money as people vastly preferred holding gold to goods, which inhibited the rapid and cheap turnover of goods. His prescription for “good money” was that, “Only money that goes out of date like a newspaper, rots like potatoes, rusts like iron, evaporates like ether, is capable of standing the test as an instrument for the exchange of potatoes, newspapers, iron and ether.” For this reason, he proposed a form of depreciating money that would lose “one-thousandth of its face value weekly, or about 5% annually, at the expense of the holder.” (Gesell, 1958). In order to maintain the face-value of the currency, holders would have to attach stamps, the cost of which was equal to the ‘depreciation tax’ put on the currency, hence the name Stamp Scrip arose. Consequently, money would be stimulated to circulate as people were incentivized to spend it before the depreciation or hoarding tax built up. This in turn, “would offset the preference of wealth owners for ‘hoarding’ money rather than spending it for some form of consumable or productive wealth.” (Dillard, 1942). Thus, Gesell was the first person to propose the idea of a depreciation tax or hoarding fee on money as well as a suggestion for practical implementation (Godschalk, 2012).

Gesell intended for his 'Free Money' ideas to be implemented on a national scale but they were only ever executed at the regional level. Despite this, they made a small but indelible impression on economic history as CC initiatives implemented his 'Free Money' during the Great Depression in Germany, Austria, Switzerland, Liechtenstein, France, Spain, the Czech Republic, USA and Canada (Fuders, 2023; Godschalk, 2012). Most of these CC initiatives were scrip notes with stamps to be affixed. A secondary departure from Gesell's original intentions for 'Free Money' was that its theoretical purpose simply became the acceleration of monetary circulation, "thus abandoning the other dimensions of Gesell's socialist theory." (Blanc, 1998). Amongst the Gesell-inspired CC initiatives, 3 stand out examples of success were the WIR Currency in Switzerland (Studer, 1998, p.10), The Wara Currency in Germany and the Wörgl Experiment in Austria, which was partially inspired by the Wara (Fisher and Cohrssen, 1933). Despite their success, the latter two experiments were shut down by their respective national governments citing fears of inflation and infringement upon the note-issuing privilege of the Central Bank (Fisher and Cohrssen, 1933). The WIR Currency, which is essentially a business to business "centralized credit system for multilateral exchange" (Stodder and Lietaer, 2016, p.571) was also launched during the Great Depression and continues circulating to this day. By 2009 the WIR Bank, as it is now known, had scaled up to 68,000 member businesses and had a turnover equivalent to 1.6 billion Swiss Francs (Ryan-Collins, 2010, p.63). Despite having its roots in Gesellian economic theory, by 1952 the WIR Bank made an ideological shift by formally renouncing Gesell's 'Free Money' doctrine (Studer, 1998, p.13).

2. THE WÖRGL EXPERIMENT

2.1. *Origins*

The Wörgl currency was established around July of 1932 in the midst of the Great Depression. The depression had created dire conditions in the town of Wörgl and 350 individuals out of a population of over 4000 were unemployed, and total unemployment was at 1500 when the neighboring parishes were included (von Muralt, 1934, p.48; Fisher and Cohrssen, 1933, chapter IV). Additionally, the town council owed around 1.3 million Schillings in unpaid debt to the Innsbruck savings bank with a rate of interest that had been increased from 7% to 10% in July 1931 (von Muralt, 1934, p.48). The result was that the annual interest requirement on the debt became more than half the town's total annual income (Unterguggenberger, 1957, p.16). Adding to this problem was the fact that the adverse economic conditions had slowed the town's tax collection revenues and the accumulation of unpaid taxes stood at 118 000 schillings (Schwarz, 1951), which was more than double the annual average municipal tax income of the preceding 4 years (Unterguggenberger, 1957, p.36). Finally, the town had urgent needs such as "road repairs which could no longer be postponed" (von Muralt, 1934, p.48) but for which there were no funds.

Given the severe nature of the town's crisis the mayor, a man named Michael Unterguggenberger, called a session of the Wörgl welfare committee on the 5th July 1932 and presented a proposal for a relief program which was supported by all present (Onken, 1983, chap.3). The mayor, who was a 'disciple' of Silvio Gesell's economic philosophy (Bourdet, 1934, p.58), believed that sluggish currency circulation was the main cause of the poor local economic climate (Unterguggenberger, 1957, p.23). To this effect the proposed distress relief program was modeled on the ideas of Silvio Gesell whereby the town would print its own paper notes entitled "labor certificates" (von Muralt, 1934, p.49) which would be subject to a depreciation tax or hoarding fee to increase its circulation velocity.

2.2. *Acceptance by the Townspeople*

There were several factors that influenced the acceptance of the labor certificates by the town's leaders and citizens. In addition to the grave economic situation, Unterguggenberger (1957, p.26) mentions the persuasiveness of the mayor in appealing to two leading citizens, the local priest and commander of the Heimwehr (Home Guard), who were persuaded to become trustees of the emergency aid campaign. Additionally, Unterguggenberger (1957, p.26) writes that a number of other local councilors took over the task of educating the local population, both verbally and in writing. The mayor also had long talks with every single member of the welfare committee before launching the decisive session on July 5th (Schwarz, 1951). Several members of the welfare committee were either merchants or service providers such as electricians, bakers or carpenters. The implication therefore is that even before the labor certificates were issued, several businesses were committed to accepting them as payment for goods or services. Finally, to guarantee the value of the labor certificates and back their redemption in the national currency, an amount of Austrian Schillings equivalent to the issuance amount of the certificates (originally 32, 000 Schillings) was intended to be deposited in the local bank (The Raiffeisen Bank) by the trustees of the distress relief program

(von Muralt, 1934, p.49; Unterguggenberger, 1957, p.26). This amount was reduced to 12,000 Austrian Schillings when the surprisingly fast circulation of the labor certificates lowered the overall amount actually needed in circulation (von Muralt, 1934, p.50).

The process worked as follows: When certificates were printed, the trustees of the emergency aid committee (including the town priest and commander of the home guard) were obliged to hand over the labor certificates to the municipal treasury in exchange for an equivalent amount of Austrian Schillings. These Schillings were then deposited into a special account at the Raiffeisen Bank and reportedly lent out at interest (Unterguggenberger, 1957, p.26; Schwarz, 2021). This measure was most likely very effective at gaining the public's trust. According to Onken (1983, chap.3) the town treasury, salary earners, businessmen, tradespeople and even the local bank accepted the certificates as payment, while Bourdet (1934, p.58) simply states that they were accepted everywhere in stores. von Muralt (1934, p.50) relates that the businessmen, despite having a preference for normal currency, favored the experiment because they believed that it slightly raised the turnover or at least stemmed the anticipated decrease in business. In the same passage he gives the example of a wholesaler who accepted 50% of purchases in the labor certificates.

2.3. The Nature of Wörgl Labor Certificates

At the beginning of July 32,000 schillings worth of notes were initially printed in denominations of 1, 5 and 10 Schillings and were subject to a monthly depreciation tax of 1% or 12% yearly of their nominal value (von Muralt, 1934, p.49; Fisher and Cohrsson, 1933). To prevent this devaluation, stickers had to be purchased at the Parish Hall and attached to the notes as proof of payment. The cost of the stickers were equivalent to the monthly relief tax and were paid in the Austrian national currency. The notes were valid for one year at the end of which they could be turned in for new certificates if all the stickers were attached. It was also possible to redeem these labor certificates for Austrian Schillings at a 2% transaction fee. The proceeds of the monthly 1% devaluation went to the poor fund, and the 2% redemption fee, which was paid in Austrian Schillings, was used to finance additional community work (Unterguggenberger, 1957, p.27). Figure 1 displays the front and back of the 1, 5 and 10 Schilling labor certificates.

Figure 1: Front and Back of the Wörgl Labor Certificates, Kultur Wörgl (2024)



Source: Kultur Wörgl (2024) as cited in September (2024, p.154)

2.4. Circulation and Use

On July 31st, 1932, the first 1,800 Schillings in labor certificates were paid to the town's workers. The town's cleric and manual workers received at first 50% and then later 75% of their wages in labor certificates (von Muralt, 1934, p.50). The recipients had previously agreed to accept this form of payment. Fisher and Cohrsson (1933) report that

town employees, including the mayor, were to receive 50% of their salaries in labor certificates, and the new emergency workmen, were to be paid 100% in that form.

Taxes, as well as rent, water and sewage fees were also payable with the labor certificates (von Muralt, 1934, p.50; Schwarz, 1951, Unterguggenberger, 1957, p.29). Consequently, after the certificates were issued, not only were current taxes paid (as well as other debts owing the town), but many arrears of taxes were also collected. During the first month alone, (August 10 - September 10, 1932.) 4,542 Schillings were thus received on the arrears (Fisher and Cohrsson, 1933). Given the backlog in unpaid taxes this undoubtedly further influenced the townspeople's willingness to buy and sell with these notes. In fact, the quick repayment of taxes with the emergency money resulted in a significantly sped up circulation cycle. Unterguggenberger (1957, p.30) reports that almost on the first day on which the first labor payments had been made, the full amount returned to the municipal treasury in the form of tax payments, thus enabling the municipal administration to dispense the same certificates again without the need for new ones to be issued. Schwarz (1951) relates an anecdote of how the fast circulation speed of the labor certificates (due to fast tax payments) created the impression of counterfeit certificates circulating in the town. von Muralt (1934, p.50) writes that eventually only about 8,000 Schillings worth of labor certificates circulated as the remainder had been taken by souvenir hunters and collectors. Both Schwarz (1951) and Unterguggenberger (1957, p.29) also concur that the highest amount of labor certificates in circulation at one time was around 8,000 Schillings worth.

The town took full advantage of the high velocity of the currency's circulation. A report by the mayor states that in March of 1933 the town embarked on a new wave of public construction projects as the benefits of this quick circulation became apparent (Unterguggenberger, 1934). In the same passage the mayor gives an account of projects completed during the experiment. These projects included the repair of several roads, construction of a concrete bridge, erection of street lighting, the demolition of an inn and its rebuilding, the construction of a water reservoir and a ski jump, and several other initiatives. von Muralt (1934, p.53) and Fisher and Cohrsson (1933) corroborate the mayors' long list of projects completed and confirm the total expenditure to be in the region of 100 000 schillings. This figure includes an amount of 12 000 Schillings of emergency credit granted by the government while it is understood that the balance was largely paid with labor certificates.

Consequently, according to all available reports, the issuance of these labor certificates had revived the fortunes of Wörgl. The back log of taxes had been significantly reduced by approximately 79 000 schillings, unemployment dropped, the high velocity currency circulation did not induce a rise in prices (Unterguggenberger, 1957, p.52; von Muralt, 1934, p.57), and the town infrastructure had also benefitted from numerous projects. Regarding the significant reduction in tax arrears, von Muralt (1934, p.52) actually states that while there certainly was a rise in taxation income, the question of whether it matched the "substantial figure" quoted by the mayor, could only be confirmed through "an exhaustive examination of the parish accounts by an impartial accountant". He also delivers a mild point of criticism which pertains to the fact that the town's large debt to the Innsbruck Bank was largely unchanged. It is clear from the reports that the Innsbruck took no part in the experiment and thus would only accept Austrian Schillings to settle the town's debt.

2.5. The End of the Experiment

The reported success of the Wörgl experiment drew attention from many places, particularly within Austria. Several other Austrian towns expressed an interest in implementing similar schemes. In June of 1933 the mayor held a presentation before a group of 170 Austrian mayors who were all inclined to reproduce similar experiments in their own towns (Schwarz, 1951). At this point the Austrian central bank, fearing that its monopoly on the issuance of currency was being infringed upon, issued a ban on the Wörgl currency by invoking article 122 of the Austrian Emergency Banking Law which "reserved the right to issue currency tokens exclusively to the Austrian National Bank." (Onken, 1983, chap.3). The mayor of Wörgl immediately filed for an appeal. The appeal process was taken all the way to the Supreme Court in Vienna where the ban was decisively confirmed. In his report the mayor states that on September 1st, 1933, under repeated orders of the supervisory authorities the depreciating money was withdrawn from circulation (Unterguggenberger, 1934).

3. DISCUSSION

3.1. *Two Key Discussion Points*

With respect to the question of the experiment's potential long-term sustainability, two central issues warrant detailed examination. The first concerns the mechanism for redeeming labor certificates into Austrian Schillings. Fisher and Cohnsen (1933) felt that the 2% redemption fee would sufficiently discourage redemption and therefore prevent any significant disruption to the circulation of the certificates. However, a closer inspection of data from the period (as outlined below) suggests a possible discrepancy between the total volume of labor certificates exchanged for Austrian Schillings and the amount of Austrian Schillings allocated to guarantee their value. This discrepancy, along with its broader implications, is examined in the following section.

The second issue requiring analysis relates to the acceptability of labor certificates for tax payments. This feature is not only unusual in the context of community currencies but also contributed substantially to the perceived legitimacy of the certificates. Moreover, from the very first day in which wages were paid in labor certificates, it became clear that their use for tax obligations served as a major stimulus for their exceptionally rapid circulation (Schwarz, 1951; Unterguggenberger, 1957, p.29). This high velocity of exchange, in turn, enabled the implementation of multiple construction projects despite the relatively modest volume of certificates in circulation. Consequently, it is necessary to consider how this distinctive characteristic of the emergency money might have performed over an extended period. The two issues are analyzed in the sections below.

3.2. *Potential Redemption Inconsistency*

The articles and documents on the experiment provide much detail regarding anything related to the currency flows of the labor certificates. This includes data on the average monthly circulation of certificates per townspeople (Schwarz, 1951), details regarding the cost of the public works down to the amount of labor shifts per project (von Muralt, 1934, p.53), and data on the revenue and expenses of the municipal accounts (Unterguggenberger, 1957). However, amongst all this data, information on how Austrian Schillings operated in exchange with the labor certificates is largely missing. Furthermore, what is revealed indicates a potential inconsistency between the amount of labor certificates redeemed for Austrian Schillings and the amount of Austrian Schillings meant to guarantee the value of the labor certificates.

As mentioned above, the issuance of labor certificates was guaranteed by an equivalent value of Austrian Schillings that were deposited in the Raiffeisen Bank (Unterguggenberger, 1957; Lietaer, 2001, p.173). Also, as mentioned above, "only 12,000 normal schillings had to be deposited at the Raiffeisen Bank." (von Muralt, 1934, 50). von Muralt confirms this amount when, based on information he received from the director of the Raiffeisen Bank, he performs a calculation on the interest earned per annum on the deposit of 12,000 Schillings. However, on the very next page he then writes that over a period of 9 months, 34,500 Schillings worth of labor certificates were redeemed for Austrian Schillings (von Muralt, 1934, p.51). The 2% conversion fee calculation he performs on the figure of 34,500 confirms that that amount of labor certificates was indeed redeemed for national currency. This indicates that over a period of 9 months the bank paid out 33,810 Austrian Schillings (the original amount less the 2% conversion fee) to townspeople redeeming their labor certificates. von Muralt states that the 9 months of this calculation spans from the start of the experiment in July until the end of March (von Muralt, 1989).

Two other reports on the redemption of labor certificates come from Broer (2007, p. 133) and Hornung (1934, p. 34) who both report that 1326 Schillings had been raised from the 2% conversion fee. Broer (2007) cites the minutes of a local council meeting and reports that by December 1932 (only 5 months after the start of the experiment) 1326 Schillings had been raised from the 2% conversion fee. Hornung (1934, p. 34) claims that the 1326 Schillings were the total revenue of the 2% from the entire period of the Experiment. Regardless of the time period difference, both reports indicate that contrary to von Muralt's report, 66,300 Schillings worth of labor certificates had been redeemed for Austrian Schillings. That this figure comes from 2 sources, one of those being minutes of a council meeting, perhaps makes it the more likely figure.

Broer provides some context as to why these redemptions could have been taking place. He writes that at that stage of the experiment, when the emergency work was slowing down due to winter, the work certificates were falling out of favor. He quotes a municipal secretary who stated that upon receiving their labor certificate salaries, they

immediately took them downstairs to the Raiffeisen Bank to exchange it for Austrian Schillings, thus opting to convert to national currency in spite of the 2% conversion fee (Broer, 2007, p.132). The author attempted to access the primary documents that Broer references by trying to make contact with both Dr. Broer and the Unterguggenberger Institute, which houses an archive of documents related to the Wörgl Experiment. However, in both cases he was unsuccessful.

Thus, we have 3 reports that, despite their differing figures and timelines, indicate that the amount of labor certificates redeemed for Austrian Schillings were far higher than the amount reportedly put aside to guarantee the value of the labor certificates in circulation (12,000 Schillings). In fact, the smaller figure of 34,500 Schillings alone equals 62% of the total figure for Wörgl's municipal revenue in 1931 (55,111 Schillings) (Unterguggenberger, 1957, p.36) and the larger figure exceeds that. Therefore, this is a potentially significant inconsistency given the reported lack of municipal funds leading up to the experiment. It also raises several other questions such as, given the reported small amount of labor certificates in circulation (a maximum of 8,000 Schillings at a time), what happened to the labor certificates that were redeemed? Were they simply retired? Both Schwarz (1951) and Fisher and Cohrsen (1933) write that the bank and the town were to re-issue labor certificates that had been redeemed. If so, this likely meant more Austrian Schilling deposits into the relevant Raiffeisen bank account to cover the re-issues. A key question concerns how these additional deposits may have influenced both the municipality's financial position and the broader circulation of the emergency money. Unterguggenberger's (1957, p.30) records for bank deposits encompass only the initial two months of the experiment, amounting to a total of 9,006 Schillings, whereas his data on the deposit and circulation of labor certificates extends across the full fourteen-month duration. It is important to note that Unterguggenberger (1957, p.31) also reports that a substantial portion of the official municipal accounts was destroyed during the events of the Second World War, leaving significant gaps in the documentary record. In an effort to clarify the scale and nature of exchanges between the emergency money and Austrian Schillings, the author contacted the Unterguggenberger Institute to inquire about surviving archival materials. He did receive a response regarding this matter. The Institute explained that the documents detailing the daily exchanges of the emergency currency had unfortunately been destroyed during the 1960s. Consequently, it appears unlikely that the precise extent of these exchanges, or their fiscal implications, will ever be definitively established.

This inconsistency raises a question mark over the long-term viability of the experiment as such large redemption amounts occurring over a long period of time could have been very costly to the municipality and possibly undermined the value of the labor certificates. Overall, this paper contends that, without clarity on the details of the labor certificates' redemption and its influence on circulation, the question of the potential long-term viability of the experiment will remain largely unanswered.

3.3. Acceptability of Labor Certificates for Tax Payments

As previously noted, the acceptance of labor certificates for tax payments was closely connected to their exceptionally rapid rate of circulation. Indeed, one critic of the Wörgl Experiment, Dr. Alfred Hornung, argued that the positive outcomes attributed to the initiative were feasible only because outstanding tax obligations constituted a crucial, perhaps even the sole, supporting factor sustaining the circulation of the labor certificates (Unterguggenberger, 1957, p.50). The ability to pay taxes with a CC is largely unheard of within modern CCs, with the only other examples being tax anticipation scrip also used during the Great Depression in America (Gatch, 2012). In her research paper titled: "Tax anticipation scrip as a form of local currency in the USA during the 1930s", Gatch (2012, p.23) finds that scrip currencies usable for tax obligations did experience widespread, if uneven, success when compared to the unremarkable record of scrip currencies that did not have this characteristic, showing the obvious benefits of the tax acceptability feature. Unlike the Wörgl scrip, the tax anticipation scrip utilized in America was backed by the local municipality's future tax revenue and was interest bearing rather than depreciating (Gatch, 2012, p.25). What the 2 forms of scrip did have in common was that both Wörgl scrip and American tax anticipation scrip were issued at the municipal level as a means to overcome the desperate circumstances of the Great Depression and both were acceptable for tax payments. Consequently, some of the conclusions of Gatch's paper are relevant to the question of the long-term viability of the Wörgl Experiment. At the end of the paper Gatch summarizes key points "for a local tax-based currency to function in noncrisis conditions as a normal feature of local government finance." (Gatch, 2012, p.32). These points are summarized and discussed below.

3.4. Key Points for the Long-term Viability of a Tax-based CC

1. Scrip issues need to be commensurate with the absorptive capacity of both the local government and retailers, which have debt and obligations outside the local economy denominated in the national currency.

Given the overall success of the Wörgl emergency money, in terms of its acceptability by the local population, construction projects completed and reduced unemployment there is a strong argument to be made that the issuance of the labor certificates was indeed commensurate with the absorptive capacity of both local government and businesses. However, this is one of the areas where the seemingly large amounts of redemptions muddy the waters regarding how much of the labor certificate issuance was indeed absorbed by the local economy and how much was simply redeemed due to preference for the national currency. Without clarity on the redemption process and how it influenced circulation, we simply cannot be certain to what extent the issuance of the labor certificates were commensurate with the absorptive capacity of local government and businesses.

2. “Due regard must be taken for the substitution effects of scrip, as taxpayers will prefer to meet their obligations in scrip while hoarding national currency for its superior negotiability.”

This ‘substitution effect’ could also be described as Gresham’s Law taking effect, in the sense that if residents prefer to meet obligations with the ‘bad’ money (the CC) while hoarding the ‘good’ money (national currency) for its perceived superiority, the ‘good’ money will consequently be driven out of circulation. Gresham’s law, despite being termed as such, is not a universal law applicable to all circumstances (Selgin, 2020, p.200). However, in cases where individuals are legally compelled to receive particular monies at their officially declared face value, Gresham’s law will begin to take effect (Selgin, 2020, pp.205 - 206). Given that the labor certificates were pegged to the value of the Austrian Schilling, it meant that there must have been some difference, however small, between the face value of the labor certificates and their actual perceived value. There were signs of this ‘substitution effect’ or Gresham’s Law in Wörgl with 90% of tax arrears being paid in labor certificates (von Muralt, 1934, p.51), although the labor certificates being less scarce than national currency due to its fast circulation was certainly an important contributing factor. However, the report by Broer (2007) of municipal employees unhesitatingly redeeming their labor certificates, also shows that residents still acknowledged the superiority of the national currency to the point that the 2% fee was not really a barrier to redemption.

Given time, this ‘substitution effect’ would likely have become a constant issue without some kind of intervention or countermeasure. An example of dealing with the ‘substitution effect’ can be seen in the CC projects of The Grassroots Economics Foundation (GEC) in Kenya. The GEC has been running CC projects since 2010 that have been acknowledged for showing promise as “sustainable development solutions in poverty-stricken areas” (Ruddick, Richards and Bendell, 2015, p.29), being effective at “bolstering entrepreneurship” (Kuk, Meyer and Giamporcaro, 2023, p.47) and being powerful tools “for communities to change the structure of their local economy” (Mqamelo, 2021, p.16). In examining the effect of the GEF’s CC called the Sarafu on microentrepreneurs, Kuk, Meyer and Giamporcaro, (2023, pp.31-32) describe two strategies that are being employed to deal with this ‘substitution effect’. The first strategy employed by the microentrepreneurs, is that they will simply limit how much CC they accept from customers, as some Wörgl businessmen did (von Muralt, 1934, p.50). As one Kenyan microentrepreneur puts it: “Once villagers know that you are accepting Sarafu all of them will come with Sarafu and finish your stock.” (Kuk, Meyer and Giamporcaro, 2023, p.31). The 2nd strategy employed by the GEF as a supervising authority is to limit monthly redemptions into the national currency to 50% of the Sarafu in the microentrepreneur’s possession. This in turn causes uncertainty among microentrepreneurs, who in addition to limiting their acceptance of the CC, also adjust their pricing and payment strategies, including inflating prices (in CC). Thus, Kuk, Meyer and Giamporcaro (2023, p.47) conclude that while their findings do “paint a promising picture” of how CCs support micro-entrepreneurs in such contexts, there are limitations to these systems. While separated by time and circumstance, the CCs of the GEC do reveal the realities of running a CC that is redeemable for national currency. Had the Wörgl Experiment been allowed to continue operating, it is almost certain they would have had to come up with effective strategies to deal with this ‘substitution effect’, beyond just a 2% redemption fee.

3. “Tax obligations must be sufficiently large to create a demand for scrip for use in tax payments to local governments.”

This 3rd point seems to add weight to Dr. Alfred Hornung's criticism of the dependence on tax arrears for circulation support, and raises the question of how the total repayment of all the tax arrears would have affected the circulation velocity of the labor certificates. If we assume that the mayor's figure of 66% (78,000 of 118,000) of the tax arrears being repaid within one year of launching the emergency money is accurate, it is highly likely that those arrears would have disappeared by the 2nd year of the experiment. Thus, with the tax arrears drying up, the municipality would have had to find another way to continue to encourage demand for the labor certificates.

4. CONCLUSION

When we consider the two research questions, we can conclude the following based on the above investigation and discussion. Regarding research question 1: The lack of data on the nature of exchanges between the labor certificates and the Austrian Schilling, casts a shadow over an essential aspect of the long-term prospects of emergency campaign, making it hard to come to definitive conclusions. However, if the limited data we have on the redemptions is accurate, it suggests that the continuation of the experiment could have been quite costly. This would likely have created strong incentives to discourage redemptions in order for the Wörgl currency to continue circulating effectively. The extent to which such decisions would have undermined the labor certificates is naturally hard to gauge but given the historically unique successes of the Wörgl currency, we cannot discount the possibility of the municipality overcoming these hurdles.

Regarding research question 2, had the experiment continued, the following key factors would have required deep consideration:

1. Understanding the extent to which Wörgl currency issuance was actually commensurate with the absorptive capacity of the Wörgl municipality and local retailers. Again, the lack of data on the labor certificate redemptions, muddies the water regarding this point.
2. Effective strategies for dealing with the 'substitution effect', aside from the 2% redemption fee, would have become necessary.
3. Once the tax arrears dried up, another means to drive demand for the labor certificates would have had to be found.

5. LIMITATIONS

The primary limitation of this paper is the fact that the author is not a German speaker and many of the source documents were originally written in German. For this reason, the author utilized translation software, hired professional translators to confirm key data points and briefly consulted with a German speaking researcher familiar with CCs to minimize any potential linguistic misunderstandings. Despite these efforts, the possibility of there being misinterpretations or misunderstandings, however small, does exist. A secondary limitation was a lack of resources that made it impossible for the author to directly visit the archive at the Unterguggenberger Institute to try to access more primary and contemporary documents. It is possible that time spent looking over primary documents (with a translator's assistance) at the archive could have shed more light on unclarified aspects of the experiment, particularly the extent of the redemptions of the labor certificates. A visit to the archive to dig deeper into that aspect of the experiment is strongly recommended as it was such an essential aspect of the experiment and documents might exist that indirectly clarify the redemption data on hand or clear up any misconceptions.

REFERENCES

- Amato M and Fantacci L (2020) Complementary currencies. *Handbook of the History of Money and Currency*, 501-522. Springer Nature
- Barinaga E (2020) *The Miracle of Wörgl*. Harvard Business Publishing. Available at: <https://hbsp.harvard.edu/product/SCG567-PDF-ENG?itemFindingMethod=Search>
- Blanc J O (1998) Free money for social progress: theory and practice of Gesell's accelerated money. *American Journal of Economics and Sociology* 57(4): 469-483.

- Blanc J, Desmedt L, Le Maux L, Marques-Pereira J, Ould-Ahmed P and Théret B (2018) Monetary plurality in economic theory. In *Monetary plurality in local, regional and global economies* 18-47. Routledge.
- Bourdet MC (1934) A French View of The Woergl Experiment. *A New Economic Mecca, L'illustration*: Paris: 9 September 1933, Issue 4723: 56. Available at: <https://onlinelibrary.wiley.com/doi/10.1111/j.1467-8292.1934.tb00436.x>
- Broer W (2007) *Schwundgeld Bürgermeister Michael Unterguggenberger und das Wörgler Währungsexperiment 1932/33*. Studien-Verlag, Innsbruck
- Cooper D (2013) Time against time: Normative temporalities and the failure of community labour in Local Exchange Trading Schemes. *Time & Society* 22(1): 31-54.
- Dillard D (1942) Silvio Gesell's monetary theory of social reform. *The American Economic Review* 32(2): 348-352.
- Fisher I and Cohn H (1933) *Stamp scrip*. Adelphi.
- Fuders F (2023) Experiences with Gesell's Solution in the Past. How to Fulfil the UN Sustainability Goals: Rethinking the Role and Concept of Money in the Light of Sustainability 309-316.
- Gatch L (2012) Tax Anticipation Scrip as a Form of Local Currency in the USA during the 1930s. *International Journal of Community Currency Research* 16 (D): 22-35, Available from: <http://ijccr.net/2012/07/02/tax-anticipation-scrip-as-a-form-of-local-currency-in-the-usa-during-the-1930s/>
- Gelleri C (2023) Complementary Currencies and Monetary Tools as Social Innovation. In: Franz, HW., Beck, G., Compagna, D., Dürr, P., Gehra, W., Wegner, M. (eds) *Sustainable Living and Business*. Springer, Wiesbaden.
- Gesell S (1958) *The natural economic order*. London: Owen.
- Godschalk H (2012) Does Demurrage matter for Complementary Currencies? *International Journal of Community Currency Research* 16 (D): 58-69 <www.ijccr.net> ISSN 1325-9547 https://doi.org/10.1007/978-3-658-41835-9_8
- Gómez GM (2018a) For the policy maker: When and how is monetary plurality an option? In *Monetary plurality in local, regional and global economies* 275-289. Routledge.
- Gómez GM (2018b) The monetary system as an evolutionary construct. In *Monetary Plurality in Local, Regional and Global Economies* 1-17. Routledge.
- Hornung Alfred (1934) *Das Ergebnis des Wörgler Schwundgeld versuchesist WörgleinFreigeld-Experiment?* Innsbruck: Sozialwissen- schaftliche Arbeitsgemeinschaft. Available at: http://digital.bib-bvb.de/webclient/DeliveryManager?pid=15782895&custom_att_2=simple_viewer.
- IMDb (2024) *Schillings from Heaven*. Available at: <https://www.imdb.com/title/tt7610914/>. accessed 5 April 2024.
- Izumi R and Nakazoto H (2017) The current state of Japanese community currency activities based on the 2016 survey. *Senshuu University Economic bulletin* 52(2):39-53. (Japanese)
- Keynes J M (1936) *The General Theory of Employment Interest and Money*. Macmillan and Company.
- Kuroda A (2018) Famine of cash: Why have local monies remained popular throughout human history? In *Monetary Plurality in Local, Regional and Global Economies* 114-122. Routledge.
- Kuroda A (2020) *A global history of money*. Routledge.
- Larue L (2022) The case against alternative currencies. *Politics, Philosophy & Economics* 21(1): 75-93.
- Lietaer B (2001) *The Future of Money: Creating new wealth, work and a wiser world*. London: The Random House Group Limited

- Lietaer B, Kennedy M and Rogers J (2012) *People Money: The Promise of Regional Currencies*. United Kingdom: Triarchy Press.
- Monbiot G (2015) A maverick currency scheme from the 1930s could save the Greek economy *The Guardian*. [Online] Available from: <http://www.theguardian.com/commentisfree/2015/feb/17/currency-scheme-1930s-save-greek-economy-eurozone-crisis>.
- Mqamelo R (2021) Community currencies as crisis response: results from a randomized control trial in Kenya. *International Journal of Community Currency Research Frontiers in Blockchain* 44: 54–63.
- NEF (2015) *People Powered Money – Designing, developing and delivering community currencies*. New Economics Foundation, London.
- Nishibe M (2020) Good money drives out bad: Introduction to the featured section on “The evolution of diverse e-money: Digital-community currencies and cryptocurrencies”. *The Japanese Political Economy*, 46(1): 1-16.
- Onken W (1983) A Forgotten Chapter out of Economic History, Schwanenkirchen Wörgl and other “Freigeld” experiments. trans. R Lines. *Zeitschrift für sozialökonomie*. [Online] Volume 20(57/58 issue/May). Available from: https://www.academia.edu/30656961/A_Forgotten_Chapter_From_Economic_History_Schwanenkirchen_W%C3%B6rgl_and_Other_Freigeld_Experiments_Newest_Edit_. accessed: 3 March 2024
- Ottacher G (2002) *Der Welt ein Zeichen geben: Das Schwundgeldexperiment von Wörgl/Tirol 1932/ 33*. Hamburg: Diplomica Verlag GmbH, ISBN: 9783832450212.
- Ruddick W, Richards M and Bendell J (2015) Complementary Currencies for Sustainable Development in Kenya: The Case of the Bangla-Pesa’ *International Journal of Community Currency Research* 19 (D) 18-30 <www.ijccr.net> ISSN 1325-9547
- Ryan-Collins J (2010) Not so “Mickey Mouse”: Lessons in the nature of modern money from complementary monetary innovations, economic sociology the European electronic newsletter, ISSN 1871-3351, Max Planck Institute for the Study of Societies (MPIfG), Cologne, Vol. 12, Iss. 1: 58-67
- Sartori L and Dini P (2016) From complementary currency to institution: A micro-macro study of the Sardex mutual credit system. *Stato e mercato* 36(2): 273-304.
- Schwarz F (1951) *Das Experiment von Wörgl*. trans. H Martzak-Goerike [Online] *Verslags-Genossenschaft Freies Volk*, Bern. Available from: <http://www.hanseisenkolb.de/woergl.htm>.
- Schwarz F (2021) *Das Experiment von Wörgl: Ein Weg aus der Wirtschaftskrise*. Synergia Verlag, new edition 2021, 92 pp. Available at: <https://userpage.fu-berlin.de/~roehrigw/woergl/alles.htm>
- Selgin G (2020) Gresham’s law. *Handbook of the History of Money and Currency* 199-219. Springer Nature Singapore
- September J (2024) Lessons from Wörgl: Key considerations for the continuation of an economic “miracle”. *Local Economy*, 39(3-4): 147-164.
- September J and Kobayashi S (2022). Sustained circulation: A descriptive framework of long-lived Japanese community currencies. *Local Economy*, 37(5): 364-383. <https://doi.org/10.1177/02690942221143981>
- Studer T (1998) *WIR in unserer Volkswirtschaft*, trans. PH Beard, WIR Bank, Basel. Available from: https://base.socioeco.org/docs/wir_and_the_swiss_national_economy.pdf. accessed: 27 May 2024.
- Tóth IB (2011) The Function of Local Currencies in Local Economic Development–The Bavarian ‘Chiemgauer Regiogeld’ and the ‘Kékfrank’ in Sopron. *Public Finance Quarterly= Pénzügyi Szemle*, 56(1): 67-78.
- Unterguggenberger M (1934) The End Results of the Woergl Experiment. *Annals of Public and Cooperative Economics*, 10: 60–63. doi: 10.1111/j.1467-8292.1934.tb004 37.x. Available from: <http://onlinelibrary.wiley.com/doi/10.1111/j.1467-8292.1934.tb00437.x/Abstract>. accessed: 20th May 2024.

Unterguggenberger S (1957) Der Schwundgeldversuch von Wörgl. Wien: Hochschule für Welthandel. Seite(n) 62. HH 14

von Muralt A (1934). The Woergl Experiment with Depreciating Money.(1). Annals of Public and Cooperative Economics 10(1): 48-57.

von Muralt A (1989) Der Wörgler Versuch mit Schwundgeld. Silvio Gesell—Marx der Anarchisten: Texte zur Befreiung der Marktwirtschaft vom Kapitalismus und der Kinder und Mütter vom patriarchalischen Bodenunrecht. Berlin: Karin Kramer Verlag 275-288. Available from: <https://userpage.fu-berlin.de/~roehrigw/schmitt/text6.htm> [Accessed: May 2024]

ABOUT THE AUTHOR

Jeremy Ryan September is a lecturer at the University of Hyogo's School of Economics and Management and adjunct faculty at Tohoku University. His research focuses on regional development and the sustainability of community currencies, specifically within the Japanese context. His work bridges the gap between social capital and economic durability to support local resilience.



This content is licensed under a Creative Commons Attribution-NonCommercial Share Alike 4.0 International License (CC BY-NC SA-4.0). To view a copy of this license, <https://creativecommons.org/licenses/by-nc-sa/4.0/>

This is an open access article, permissioned by the authors and by IJCCR as part of RAMICS (independent association)