Wörgl's Miracle –
An Analysis by The German School of Monetary Freedom

The following analysis is taken from Ulrich von Beckerath's book "Must Full Employment Cost Money? - The Financing of Public Works Without Recourse to the Money Market. According to Milhaud's Proposals; With Some Remarks on the Latter", published in the "Annals of Collective Economy", Geneva, volume 11, 1935; it was translated by G. Spiller, London, from its German original ("Muss Arbeitsbeschaffung Geld kosten? Die Finanzierung oeffentlicher Arbeiten ohne Beanspruchung des Geldmarktes nach den Vorschlaegen Milhaud's nebst einigen Bemerkungen ueber sein System"), which appeared in book 1, volume 11, 1935, of "Annalen der Gemeinwirtschaft", in Geneva.

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At this point we may examine in some detail the financing of re-employment in the Austrian town of *Woergl*. According to many, including the people of Woergl themselves, work was provided by means of a paper money the free circulation of which depended, among other things, on the *confidence* shown therein. The results achieved by mayor Guggenberger in this small Tyrolese town of about 4.000 inhabitants are very remarkable and have largely become known the world over through Claude Bourdet's account in the French periodical "Illustration" and the reports in the Annals 1934, 1. Seemingly, the successful results were attained in ways quite different from those proposed by Milhaud. Actually, however, they were produced by the economic forces that Milhaud aims at mobilizing. The regular monthly depreciation of the Woergl paper money, which the population regarded as primarily responsible for the success, did more harm than good, as we hope to show.

Woergl's normal tax revenue appears to be about 300,000 schillings a year. Such a revenue offers in itself-a cover for the issue of notes. Here the discount can never be very high if certain issuing limits are respected. To make this clear, let us, to begin with, take an extreme case, namely, that all the taxes at Woergl are paid on a given day in the year (which is, of course a pure supposition) and that no arrears remained. Let us further assume that the town is obliged to spend every workday on wages supplies etc., exactly 1.000 schillings. In such a case the town could perhaps pay its way with notes having for cover only the circumstance that the town accepts them at par for taxes, or even as at one time the Prussian Government quite practically arranged for its treasury notes the fact that a taxpayer, who does not pay at least half his taxes in paper, is obliged to pay a premium. The rates issued on 2 January can, it is true, only be utilized a year later; those issued on 1 February eleven months later, and so, on. Owing to the notes not being forthwith utilizable, they are liable to a discount which will be the smaller the more substantial the premium. (In old Prussia the premium was called the "Strafgroschen" [penalty pennies] because in pursuance of the Act of 7 April 1815, for every thaler of taxes, a fine of 2 groschen had to be paid on that half of the tax which was to be paid in paper but was nevertheless paid in specie. By an Order of the King of 14 October 1827, the fine was reduced to 1 groschen.) It is arguable that in a town as small as Woergl, the notes would circulate despite the discount, if the town agreed to meet the discount. If the interest rate at Woergl is 6 % per annum, the discount at the beginning of the year would be at least 6 : 1,06 = 5,7%, assuming the discount rate for a full year. Nor is there any reason to suppose that the discount will be much higher. On 1 February the discount on all notes issued in January would be roughly one-twelfth less and at the close of the year, when all the notes can be paid in taxes at par, the discount will have disappeared. It is manifest that this discount has nothing to do with trust or mistrust but depends solely on the method of tax raising.

Let us consider another extreme instance, namely where the taxes are collected continuously, i e., one-three hundredth of the tax revenue every workday. In this case the town need only issue 1.000 schillings a day. These notes would possibly all return to the municipal treasury within a few hours of their being issued. No discount can occur for at the least discount some taxpayers will acquire the discounted note, and pay it in at par in order to profit by the discount. (In municipalities poorly supplied with specie, the tax cover keeps at par much larger amounts of paper money based on public revenues than about a third of the annual revenue, a percentage which otherwise corresponds to the normal experience. W. B. Greene in his essay "Mutual Banking" reports that in North Carolina, about twenty years after the declaration of independence, State paper money amounting to between 400 and 500 thousand dollars circulated at par, without being legal tender and this although the State revenues were much below 100.000 dollars.)

Between a daily note issue of 1,000 schillings without discount and an issue of 300.000 schillings at the commencement of the year with a relatively heavy discount (which is inconvenient in business but perhaps still tolerable in a small town) there lies a middle value. Here the discount is less than that of an annual discount and may be reduced to such an extent, by special measures of the municipality, that it occurs not daily but only occasionally not so frequently as to obstruct the general circulation, but frequently and intensively enough to induce taxpayers to procure the notes and pay their taxes with them. The municipal treasury is, of course, obliged to accept them at par. When experience has settled on this middle amount to be issued, then obviously an *artificial* discount, such as was introduced at Woergl by a monthly depreciation of 1 %, becomes, to, say the least, superfluous.

The reasoning underlying the systematic periodical depreciation is peculiar, presupposes that the notes are legal tender and is in the case of Woergl truly illogical. The real purpose of this depreciation was by no means a rapid reflux of the notes to the **municipal pay office**. The town was not directly interested in that. At most, it had an indirect interest in the reflux in so far as it naturally preferred that the notes should flow back rather than that they should be negotiated at too heavy a discount and thereby bring the financial administration into ill repute and also prejudice the chances of further town issues. The aim of the periodical depreciation was that the notes should circulate as rapidly as possible **among the population** and stimulate thus a maximum of business activity. Now it is very remarkable that *this* end was obviously *not* attained. The notes went a quite different way to that anticipated and returned with great rapidity to the *municipal pay office*. All reports stress this rapid reflux.

It would, however, be wrong to argue that Woergl's note issue proved a failure. The town's finances were, it is evident, considerably improved by the issue, which in any case was a success. Moreover, the undertakings initiated by the municipality undoubtedly raised the level of employment at Woergl. The only question is whether *more* could have been achieved and the answer should be *in the affirmative*.

As intimated above, the idea of depreciating money involves a logical contradiction in Woergl's case. A means of payment steadily depreciating in value cannot be expected to circulate among a population so long as it can be disposed of at par at the municipal pay office. The inhabitants of Woergl did not perceive this contradiction at once because they were under the spell of Silvio Gesell's theories. These theories, it is true, have misled many *acute* thinkers, as Irving Fishers example illustrates. This economist is incontestably one of the most eminent scholars and thinkers of our time. Yet he was bewitched by the idea of depreciating money. Others equally impressed, who also have a right to be proud of their achievements, need not be mentioned here. Therefore, the people of Woergl need not be ashamed of their error.

Gesell's theory has a gap which is especially important for the Woergl experiment but which has been overlooked by the critics of that theory and by the people of Woergl. This theory, in a word, does not differentiate between the economically quite different reactions of metallic currency, paper money with and paper money without legal tender. Such an omission would have been impossible 150 years ago; but since the War this distinction has been forgotten, so that for instance Keynes, in his otherwise excellent "Money", neglects to make the distinction. Gesell states only in general terms that the rate of circulation of "money" should be speeded up in order to increase the effective demand for goods and therefore for labour. But Gesell does not see that **paper money** requires an **issuing centre** and that where money is not legal tender, the issuing centre cannot force into circulation any *inconvenient*, let alone loss causing, means of payment. (This enforced circulation would still be possible if the issuing centre were vested with a monopoly. This is usually the case. The Ed. - It would also be close to being "enforced", in any economy depending upon monetary exchanges, when the coin of the realm or its State paper money is at least temporarily and locally in very short supply. Then almost any kind of "emergency money" becomes widely accepted for want of something better. - J.Z., 27.11.01.) Such an inconvenient means of payment as a regularly depreciating paper money is, in the absence of a forced rate, quickly returned to the issuing centre, and thus mediates few exchanges. (In fact, in the absence of a forced rate the issuing centre must shoulder all its own mistakes and cannot pass them on to the public.) Gesell also ignores the fact that the concept "circulation" is only applicable to a metallic currency and to paper money having a forced rate. The movement of paper money having a free market rate assumes a quite different form and is comparable rather to "oscillation". The latter money is issued and then returns as a rule by the most direct route to the issuing centre where it is destroyed. Such a process cannot be properly described as a process of "*circulation*".

In agreement with the experience of the older financial technique, Woergl's normal issuing capacity may be estimated at about one-third of its annual tax revenue, i.e., at about 100,000 schillings. The "depreciation" has quite clearly prevented the full exploitation of this normal issuing capacity. Thus at first only 1,800 schillings were issued and never could more than 12.600 schillings be kept in circulation. This disadvantage need not be overrated, but it is not equal to zero. In an average household there is normally a need for an amount of cash sufficient to cover the household expenditure for a few days. When this cash is represented by paper money, it means that the centre issuing the paper money is in practice sometimes able to issue a little *more* money than its *immediate* cover permits. The issuing centre may therefore not always, but sometimes issue as much supplementary paper money as corresponds to its anticipated receipts during the next three or four weeks. This is not objectionable, even from the viewpoint of strict theory, **if** the issuing centre is a *tax creditor* which also accepts advance payments of taxes and allows for this an appropriate interest rate. In this instance, a "run" would be harmless and would only represent an accelerated influx of taxes. There is naturally no intention here to set up the general principle that **future** revenues form as good a cover for paper money as **present** balances, but it is just in the case of the balances created by the taxation acts that an accurate differentiation between what is to be regarded as the **present** tax balance of a State, municipality, or like body and what is their **future** revenue, becomes almost impossible. On the other side, the need among the population for money in hand is most urgent. There seems no good reason why this need should not be satisfied by the issue of paper money where here is at the same time such a reliable safety valve against an excess issue as the free market rate of this paper money.

Lorenz von Stein's empirical formula, which regards about one-third of the annual State revenue as the normal amount of the paper money issue of a State, municipality, or like body, explains itself-in the need of the population to have some money in hand. If we assume that a Government lays claim to about one-fifth of the annual income of the nation and issues in the shape of paper, money for one-third of this one-fifth (that is for one-fifteenth) of the annual national income, then this would correspond to a cash holding in households equivalent to the cost of living for about twenty-four days provided always that little other money circulated. Astronomical exactitude cannot, of course, be expected in such tentative calculations.

Assuming that Woergl had 800 families, an issue of 100.000 schillings would argue an average cash holding in every family of 125 schillings, which is probably not an exaggerated estimate. If, however, a paper money depreciates at regular intervals and as rapidly as the town notes of Woergl did, such a large cash holding as we presupposed is not to be expected, at least not in town notes, which means that the town is *not* in a position to issue 100.000 schillings.

The salutary effect of Woergl's issue of notes on its municipal finances would have probably suggested to its inhabitants, after a time, to introduce something analogous for all parties who had *claims* of any kind at Woergl and were prepared to accept the value of these claims in Woergl goods and services. This could have been accomplished through the establishment of one or more work supply banks based on the principles described in the Annals (1934, I and peace plan 190), and issuing notes *supplementary* to those issued by the town itself. (The objection might be raised: Surely, not *two* banks of issue in a town having only 4.000 inhabitants. Before the Civil War, there were in the United States dozens, probably even hundreds, of such localities with more than one bank of issue.) The population of Woergl would then have learnt by experience what a theory suggested by Milhaud's proposals would have revealed a priori, namely that what matters is **not** the rapidity of the monetary circulation, but making the local and even national economy *independent* of such rapidity.

(The old simile of *money* in the body economic and of *blood* in the human body will have to be correspondingly modified. The blood, as a matter of fact, does not circulate. It is **emitted** by the lungs, streams back to the lungs as a useless substance and is then burnt up by them, in a similar way as free paper money is emitted by the emission centre and is burnt after its reflux. The comparison therefore holds for this kind of money, but not for a metallic currency or for forced paper money, both of which actually *circulate* and are not subject to a reflux to the issuing centre.)

When a town issues non-compulsory paper money but attaches *unfavorable conditions* to its possession, it must not be surprised when the money quickly returns and when business fights shy of such a means of payment, It might be thought that this contradicts *Gresham's* Law according to which "bad money drives out good", for this suggests that on the basis of this law one ought to expect town money to drive out other money. But Gresham had in view *metallic* currency and not *notes*. Expressed in modern terms, his rule would read: "The money more suitable for the *payer (*)* drives out that less suitable for him". As we have indicated elsewhere, a depreciated but forced metallic currency is by no means "bad" money for the *payer (*)*, on the contrary, it is most suitable, hence "good" money, for *him*! That is, notwithstanding the common expression "bad", we ought to distinguish between *economically* bad, bad for the *payer (*)*, and bad for the *receiver of a payment.* In contrast with the debased forced metallic currency (jz1), the Woergl municipal money was, in the long run *bad* money for the *payer (*)* and was bound therefore to be displaced by the notes of the Austrian National Bank. The municipal money was good for the **payer** (*) during the few weeks only when it did not suffer from depreciation and during those weeks, of course, it freely circulated.

The published statistics do not show to what extent Woergl's inhabitants were inclined to accept the depreciation and to compensate it by affixing due stamps. It is reported that on the average 50 schillings worth of such stamps were affixed during a month; but the 50 schillings included also the amounts which the municipality itself-affixed whilst the notes were in their possession.

It was moreover, not at all a failure that the municipal notes were often deemed less acceptable than State money. On the contrary, the frequently recurring depreciation of the notes (which need not appear only as a discount) secured their reflux and constituted therefore the proper reason for the amazing increase in the municipal tax revenue and for the improvement in the town's finances.

The periodical depreciations would have only argued a flaw in the issue if the note holders had *not* been in a position to utilize the notes at once for paying taxes or easily to find others who could at once pay their taxes with the notes, i.e., if the town had issued many more notes than its tax pay offices could accept at any dime. (In reality the town accepted also advance taxes in municipal money, which indicated a practical mind and merits praise.)

Special importance attaches in the Woergl experiment to the tax *arrears* of about 118.00 schillings. Without the issue of town money (which was only legal tender for the tax pay office), these arrears could scarcely have been mobilized. On the other hand, it was precisely this municipal claim of 118.000 schillings on its taxpayers which placed it in a position to spend liberally on undertakings which lay outside its normal administrative sphere. According to the statement made in the valuable pamphlet by Sonderegger and Burgstaller (Aufwaertsverlag at Woergl, May 1933), 102.197,13 schillings altogether were spent on relief works more particularly on road construction. This amount pretty nearly corresponds to the amount of the tax arrears paid. What does this signify? The town had amassed credits among its population not quite voluntarily, it is true and only in the way of giving a respite, but credits they were. The lax debtors then accepted the municipal notes in their shops or in payment of sums due to them gave the note holders (often laborers engaged on relief works) provisions, pickaxes, shovels, axes and other materials in exchange for the notes; and, finally, took the notes they received to the municipal pay office and therewith paid their taxes. This enabled the town to mobilize its tax credits and to transform these into durable possessions, e.g., roads. That this transformation was in any way favoured or accelerated by the depreciation of 1% a month cannot be inferred from the hitherto published statements and is also highly improbable. Without depreciation and without affixed due stamps, everything would have probably passed exactly the same, only in a simpler and more obvious way and with less friction.

Supporters of the central banking principle will contend against those, who on the whole express a favorable judgment on the Woergl experiment and who at least recognize that it did not fail, that the effect would have been identical if the central bank had tent the town first 1.800 schillings and later 12.600 schillings and had claimed them again when the notes had returned to the town. But the notes of the central bank would certainly *not* have flown back as rapidly and perhaps not at all. Even those strongly imbued with local patriotism could utilize to greater advantage a means of payment current also in Vienna and the whole of Austria than promptly to pay with it their taxes at Woergl. They would prefer to postpone paying their taxes than to forgo benefiting by the wider possibilities which need not be described here. It was just the fact that the notes could *not* be used as a means of payment in Vienna and could *only* be used for paying taxes at Woergl, which determined the reflux to the municipal treasury and therewith the restoration of the town's financial a equilibrium. It is, for instance, highly questionable whether the notes would have realized their purpose if even the capital of Tyrol alone, Innsbruck, had accepted the notes:

The seeming cover of the notes with legal tender i.e., by depositing notes of the National Bank of Austria at the municipal savings bank was superfluous, even detrimental, and caused a self-deception not devoid of danger. The cover was superfluous because the tax cover sufficed. The cover was also detrimental because it induced people to convert the town money into State banknotes instead of using it for paying their taxes. (A 2% exchange duty is in such cases scarcely an obstacle, as experience proved.) That there was self-deception was evident from the fact that the municipal savings bank *lent out* the notes of the central bank which were to serve as cover. So far as the savings bank was concerned, the true cover was not represented by the notes of the central bank but by the credits created by the lending out of these notes. Had a large number of town money notes been simultaneously presented for redemption in banknotes, the savings bank would have had to call in its credits and this as rapidly as possible. In its turn such a sudden calling in of credits might easily have led to an acute local economic crisis.

Summing up, it may be said that the principles which were deemed of greatest value, viz., regular monthly depreciations and the affixing of due stamps on the notes probably did more harm than good; but that certain other principles, which were acted on only sporadically and even unconsciously, were the determining factors, i.e., the tax cover, the local circulation, and naturally the right of refusing to accept the notes. The latter were only legal tender for the municipal pay office.

The Austrian National Bank may be justly reproached for having cut short the Woergl experiment, more particularly since, as explained above, the notes of the National Bank *could not* possibly have replaced the municipal money. The National Bank advanced no convincing reasons for its veto; it only insisted on its prerogative. That was tantamount to exercising brute force. The account in no 1 of the Annals of 1934 (Ending the Crisis, pp. 339?350) and that in the above mentioned pamphlet by Sonderegger and Burgsstaller, imply that even where the experiment was based on mistaken assumptions, it was carried out circumspectly, and that it would have been therefore easy to introduce any desirable improvements. The economic life of Austria would in no way have suffered through the experiment. The population of Woergl alone ran what risk there was. It should be also recognized that the issue department showed decidedly practical sense (in any case more so than not a few central banks of issue have evinced in recent years) although it was ill-informed with regard to the technique proper to note issues. If Woergl had been left unmolested, its own experience would have enlightened it and this probably very soon. The world would thereby have become enriched by a valuable experiment. The decision of the people of Woergl, as reported in the pamphlet mentioned, to continue pressing for permission to find work for its unemployed through municipal note issues, can only be welcomed.

(*) In editing this article and comparing it to the German original, a typesetting error of the English print version was discovered and had to be corrected. In the English print version, the word “payee” was erroneously used instead of “payer”, which would have been the correct translation. In this article, that you read above, the correct wording was used according to the German original. T. Megalli, 16.08.2022

(jz1) A debased and forced metallic currency is, in the long run, bad for both, the debtors as well as the creditors, but in the short run convenient for dishonest debtors who can thus legally defraud their creditors. Naturally, they can then not expect to get many other credits under such conditions and will generally suffer from many of the consequences of inflation. - While legal tender can still be maintained, the defrauded creditor is given the chance by it, to defraud his creditors in his turn with such "money", bad objectively, but good enough for him to pay his debts with. If he still receives some good money he would tend to rather hold on to it than pay it out - while he can still pay his debts with the bad money. Only to that extent does "bad money drive out the good". Without legal tender the bad money can be and will be refused, while good money is gladly accepted, and thus the good money drives out the bad. - All the dispersed insights of various writers over the centuries on fundamental and much misunderstood monetary law and experience should be compiled and commented on in a monography. - John Zube, 27.11.2001.