Local currencies versus the level of economic security of the region during the COVID-19 period

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Abstract: - Local currencies are tools typical of the social economy, affecting the real economy and serving as an instrument for reducing instability, including economic fluctuations, especially in times of crisis, difficult economic situation, etc. They are an alternative to national currencies, but they also help to support local traders. An example of a local currency is the Zielony Polish Local Currency introduced by the group of enthusiasts in 2015. Local currencies contribute to building the local community, supporting cooperative activity and the local economy, and promoting sustainable development. They also protect local communities from the negative consequences of economic fluctuations. The aim of the work is to determine the impact of local currencies on increasing the level of economic security of the region especially during periods of economic security risks, e.g. in the context of the epidemic risk caused by COVID-19. The work is theoretical. The methods used in the work are: critical literature analysis and statistical method.

Key-Words: COVID-19, local currencies, local communities, SMES, social economy, Zielony
JEL Classification: A13, B10, B55, G02, G10


1. Introduction
Local currencies (called the complementary currencies) can be defined as both an alternative to national currencies (i.e. generally applicable and socially acceptable means of payment in the country) but, above all, as one of the tools that enable to create the right conditions for the development of entrepreneurship and small and medium-sized enterprises in local communities (cf. [1], [2]).
The functioning of local currencies makes it possible to make purchases at familiar sellers and local traders, which in turn offer jobs to the local community (cf. [3]). In fact, local currencies are a kind of economic and social experiment that achieves such effects as would not be possible under the traditional management and classical financial system of a city, region or country.

The aim of the work is to determine the impact of local currencies on increasing the level of economic security of the region in emergencies and periods of other economic risks (including epidemic threats, e.g. COVID-19; cf [4], [5]) during their duration as well as after they have ceased. In the second period local currencies can contribute to economic boosts, especially for small and medium-sized enterprises operating in poor communities and/or regions. This positive impact of local currencies on the development of the local economy stems from the characteristics and attributes associated with the local currencies: forced trading, closed circulation, interest-freeness, or staying out of the reach of inflation.

The work is theoretical and can be a field of exploration for further analysis. The methods used in the work are: critical analysis of literature and statistical method.

2. History of local currencies – the case of Guernsey and Wörgl

The history of local currencies, the functioning of which was based on a kind of barter, dates back to ancient times. As history shows, their emergence, but also periods of special interest and exploitation, are linked to emerging as well as increasing threats to economic security and social security. In the economic history of the world, they have generally been regarded as a tool that is the aftermath of a difficult period in the economies of different countries, but also a tool to minimise social unrest, especially in times of disasters, crises, wars, revolutions, etc. The task of local currencies was then to make up for the shortage of the generally applicable currency, which understandably (but not yet fully defined by means of an appropriate terminology apparatus) transferred on the level of economic security of entities operating in the local and regional market.

The first consistent theorist of commodity money was Nikolai Copernicus (1473-1543), who, starting with the concept of good money as a standardized commodity, formulated an outline of the theory of a two-crush parallel monetary system [6].

In the literature of the subject, you can identify examples of different cities, regions, macro-regions, countries or systems that have introduced local currencies through an economic experiment (e.g. German “Wara” System in 1923; LETS system, Swiss WIR 1934). One of them was the territory of Guernsey, where between 1815-1836 and since 1914 until now together with the currency of the pound sterling also operates the local currency Pound Guernsey. The introduction of the local currency was linked to the collapse of the economic security of the territory, caused by the Napoleonic Wars. At that time, £4,000 was put into circulation. This made it possible for Guernsey's economy to grow markedly within months. New road infrastructure was built, war-damaged buildings were renovated. All actions were taken with due care and consideration, with a view to the negative impact of inflation on the improving economic and social situation. Within twenty years, Guernsey's economic situation and economic security, thanks to the introduction of the local currency, has evolved from a deep depression to true prosperity [7].

Another example of a territory that successfully realized the economic experiment of the local currency was the Austrian city of Wörgl. The experiment was a response to the great economic crisis between 1929 and 1934 and was introduced for the sake of deep recession, rising poverty and high unemployment in the city, but also high Austrian state debt at a bank in Innsbruck [8]. Because of that the mayor of the city introduced 30,000 Wörgl Schillings into business in 1932. According to Bernard Lietaer, this currency circulated 416 times over the duration of the project. A local free currency circuit was created, independent of the central bank. In this way, the consumption of goods increased, because it was possible to pay for something. Investment in the city increased by 219% compared to the previous year [9]. The introduction of the local currency has contributed to the growth of the city's economic security, in particular to minimising
the negative effects of the crisis, reducing rising level of unemployment and petty crime, and slow exit from the depression of the local economy (cf. [10], [11], [12]).

In Poland the first local currencies appeared in 1818. Although they did not resemble a typical currency like Pound Guernsey and Austrian Wörgl, but they worked in a similar way.

For example, the Hrubieszow Agricultural Society (founded in 1816 by Stanislaw Staszic) used private vouchers, acting as a means of payment (cf. Doc. 1., Foto 1., Foto 2., Foto 3.).

Another example of the Polish local currency was the PeKaO freight voucher, called the Polish dollar, which could be exchanged in a specific network of retail outlets. It could be carried out only by taking goods from internal exports at one of the outlets of Bank Polska Kasa Opieki S.A. Other examples of local currencies were porcelain (called notgeld, which originals are a hundred years old; cf. Foto 2.), stoneware and dime coins issued in the 1920s by such cities as Bolesławiec, Wałbrzych, Zabrze, Gliwice, Tarnowski Góry and Zielona Góra.

Doc. 1.: An example of a private voucher

Foto 1.: An example local currency from Zielona Góra

Foto 2.: An example local currency from Tarnowski Góry

Foto 3.: An example local currency from Ziędice

The economic history of the countries that have introduced local currencies proves that the analysed tools of social economy are based on the environmental and economic living conditions of the community, in particular its most vulnerable members [14], but also affect...
the real sphere of the local economy, in particular the entities that operate in it and are an instrument for reducing instability, including economic fluctuations [15].

3. Silvio Gesell’s theory and its importance for the development of local currencies

Silvio Gesell was a German expatriate born on 17 March 1862 in the state of Vith on the border of Belgium, Luxembourg and Prussia (cf. [16]). As an entrepreneur and trader who ran a medical equipment import company in Buenos Aires, but also as a political activist and forerunner of the banking and social finance movement, he advocated trading in local, non-convertible currencies. Silvio Gesell ran his business in the 1980s, 19th century, when Argentina was economically unstable. It was the economic crisis that inspired Gesell, to whom money was the main source of financial and economic problems. It was unnatural to him that money is eternal and “non-rusty” [17]. According to Gesell, “rusting money” will activate trade and reduce the economic divide between rich and poor.

Silvio Gesell in his main work entitled The Natural Economic Order published in Switzerland in German (first volume in 1916 and second volume in 1911; cf. [18]), presented the idea of a rent-free system and interest-free money, but also drew attention to the issues related to the nature of money and its functioning in the economy. Moreover, he proposed his own proposals of reforms concerning spending money. He believed that the currency should be depreciated over time, as should the value of the goods it represents [19].

Apart from the “rusting banknotes” and the reform of the monetary system, Silvio Gesell has gained popularity thanks to the theory of local alternative money. The German economist’s theory was that money should be used in commercial transactions, not for austerity or speculative purposes. Local money, which Silvio Gesell called “free currency” or the Freigeld monetary system and which were described in The Natural Economic Order [cf. 20] the author defined as “an exchange instrument and nothing more, which only test was the degree of safety, speed and cheapness with which the goods are changed” [21]. Cash should not generate any interest and, if not used, should gradually lose value [22]. The initial value of money is restored after the payment of so-called demurrage (once interpreted as downtime; currently: evaluation fee or negative interest rate). Silvio Gesell’s concept was intended to increase local money in circulation [23].

Silvio Gesell’s concept had a bearing on some views of well-known economists like John Maynard Keynes (1883-1946) and Irving Fisher (1867-1947) who, in their reflections on some of their own proposals flowering interest rates during periods of inadequate effective demand, referred to the concept of a German economist [24].

4. The Zielony Polish Local Currency and its role in shaping economic security in the COVID-19 period

Until 2015 there were three local currencies in Poland: Dobry, Piast (PLP) and Zielony (PZL). The first two were created in 2014, were electronic and were organised in the form of a loyalty program. Joining the Dobry and Piast local currency system allowed entrepreneurs to gain access to a new customer base, while customers could exchange products offered by local entrepreneurs [cf. 25].

Nowadays the only project of local currencies in Poland is Zielony - Polish Local Currency introduced by the group of enthusiasts in 2015. The project brings together about 600 companies with more than four thousand products (food and industrial products, RTV equipment, cars and automotive accessories) and services (e.g.

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1 Silvio Gesell (born on 17th March 1862 in Vith on the border of Belgium, Luxembourg and Prussia; died on 11th March 1930 in Oranienburg in Germany).
The first deal in Zielony took place on 15 March 2015. In the years 2015-2019 the value of turnover in Zielony constantly grew. In 2015, the turnover was around PLZ 551,000, in 2016 more than four times as much as the previous year (PLZ 2,219,166) and in 2018 twelve times as much as in the base year (i.e. PLZ 6,719,612). Between 1st January 2020 and 31st July 2020, the turnover expressed in Zielony was PLZ 2,296,000 and PLZ 792,000 from January 2020 to 12th March 2020 (until the outbreak of COVID-19 caused lockdown in Poland). With the outbreak of epidemic in Poland, the turnover decreased compared to the same period in 2019 and to the first two months of 2020. According to statistics, in the months between March and July 2020, the turnover in PLZ was 1,362,000. The monthly value of turnover in Zielony from March 2015 to August 2020 is presented in Table 2:

![Table 2: The monthly value of turnover in Zielony from March 2015 and August 2020](image)

### Table 2: The monthly value of turnover in Zielony from March 2015 and August 2020

<table>
<thead>
<tr>
<th>Year</th>
<th>Month</th>
<th>Turnover (in PLZ)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>March</td>
<td>11 168</td>
</tr>
<tr>
<td>2015</td>
<td>April</td>
<td>7 939</td>
</tr>
<tr>
<td>2015</td>
<td>May</td>
<td>31 567</td>
</tr>
<tr>
<td>2015</td>
<td>June</td>
<td>21 142</td>
</tr>
<tr>
<td>2015</td>
<td>July</td>
<td>49 748</td>
</tr>
<tr>
<td>2015</td>
<td>August</td>
<td>61 345</td>
</tr>
<tr>
<td>2015</td>
<td>September</td>
<td>71 879</td>
</tr>
<tr>
<td>2015</td>
<td>October</td>
<td>149 200</td>
</tr>
<tr>
<td>2015</td>
<td>November</td>
<td>492 988</td>
</tr>
<tr>
<td>2016</td>
<td>January</td>
<td>103 066</td>
</tr>
<tr>
<td>2016</td>
<td>February</td>
<td>119 700</td>
</tr>
<tr>
<td>2016</td>
<td>March</td>
<td>93 864</td>
</tr>
<tr>
<td>2016</td>
<td>April</td>
<td>78 972</td>
</tr>
<tr>
<td>2016</td>
<td>May</td>
<td>72 769</td>
</tr>
<tr>
<td>2016</td>
<td>June</td>
<td>113 322</td>
</tr>
<tr>
<td>2016</td>
<td>July</td>
<td>193 164</td>
</tr>
<tr>
<td>2016</td>
<td>August</td>
<td>194 867</td>
</tr>
<tr>
<td>2016</td>
<td>September</td>
<td>206 593</td>
</tr>
<tr>
<td>2016</td>
<td>October</td>
<td>202 389</td>
</tr>
<tr>
<td>2016</td>
<td>November</td>
<td>492 988</td>
</tr>
<tr>
<td>2016</td>
<td>December</td>
<td>347 472</td>
</tr>
</tbody>
</table>

The currency can mediate in various types of business relationships: between enterprises (B2B), as well as between consumers (C2C), but also in business-to-consumer (B2C) and between the customer and enterprise (C2B).

Zielony is so-called Local Currency System, i.e. a legal contractual unit of account, offering cooperation programs and interest-free financing for Polish small and medium-sized companies, as well as a barter exchange system, on the basis of which the contractors via Zielony can purchase another company’s work on the market. It is a non-convertible unit, what makes its circulation five times faster than the circulation of the national currency. Zielony is equivalent to one Polish zloty (PLN).

### Table 1: Selected Features of Zielony

<table>
<thead>
<tr>
<th>Feature</th>
<th>Zielony</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Recipients</strong></td>
<td>Enterprise in Poland customers</td>
</tr>
<tr>
<td><strong>Business relations</strong></td>
<td>business-to-business (B2B), business-to-consumer (B2C), consumer-to-consumer (C2C), consumer-to-business (C2B)</td>
</tr>
<tr>
<td><strong>Aim</strong></td>
<td>supporting the local production system and services, building good business relationships between local companies; increase in the turnover of participants by using specific tools</td>
</tr>
<tr>
<td><strong>Form</strong></td>
<td>system of barter exchange between companies, a loyalty system that rewards customers with appropriate discounts for purchasing goods from local entities participating in the program</td>
</tr>
<tr>
<td><strong>Value</strong></td>
<td>1 Zielony = 1 zloty</td>
</tr>
<tr>
<td><strong>Motto</strong></td>
<td>We will buy from you as long as you buy from us - because it is fair</td>
</tr>
</tbody>
</table>

Source: (cf. [26]).
Taking into account the number of transactions made using the local currency Zielony, their distribution in each year was as follows: 2015 – 3,186 transactions, 2016 – 13,622 transactions, 2017 – 23,098 transactions, 2018 – 30,277 transactions. Table 3 shows the number of transactions made using Zielony currency on a monthly basis between March 2015 and August 2020.

Table 3.: The number of transactions in Zielony made between March 2015 and August 2020

<table>
<thead>
<tr>
<th>Year</th>
<th>Month</th>
<th>Number of transactions</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>March</td>
<td>18</td>
</tr>
<tr>
<td>2015</td>
<td>April</td>
<td>28</td>
</tr>
<tr>
<td>2015</td>
<td>May</td>
<td>48</td>
</tr>
<tr>
<td>2015</td>
<td>June</td>
<td>74</td>
</tr>
<tr>
<td>2015</td>
<td>July</td>
<td>98</td>
</tr>
<tr>
<td>2015</td>
<td>August</td>
<td>146</td>
</tr>
<tr>
<td>2015</td>
<td>September</td>
<td>338</td>
</tr>
<tr>
<td>2015</td>
<td>October</td>
<td>642</td>
</tr>
<tr>
<td>2015</td>
<td>November</td>
<td>804</td>
</tr>
<tr>
<td>2015</td>
<td>December</td>
<td>990</td>
</tr>
<tr>
<td>2016</td>
<td>January</td>
<td>720</td>
</tr>
<tr>
<td>2016</td>
<td>February</td>
<td>824</td>
</tr>
<tr>
<td>2016</td>
<td>March</td>
<td>912</td>
</tr>
<tr>
<td>2016</td>
<td>April</td>
<td>726</td>
</tr>
<tr>
<td>2016</td>
<td>May</td>
<td>686</td>
</tr>
<tr>
<td>2016</td>
<td>June</td>
<td>806</td>
</tr>
<tr>
<td>2016</td>
<td>July</td>
<td>720</td>
</tr>
<tr>
<td>2016</td>
<td>August</td>
<td>1634</td>
</tr>
</tbody>
</table>
From the point of view of the epidemic situation of COVID-19 it is important that the number of transactions carried out using Zielony has decreased. According to the data presented in Table 3, in the period from 1st January 2020 to 12th March 2020, the number of transactions was 988 in January 2020, 776 in February 2020 and 710 in March 2020. From the 1st March 2020 and 12th March 2020 the number of transactions was 396. After 12th March 2020, the number of transactions decreased and most transactions was connected with food, confectionery and bakery, cosmetic and industrial items, automotive parts, computer services, advertising and printing. The value of turnover in Zielony and the number of transactions in the period 2015-2020 is presented in Figure 3:

Figure 2: The number of transactions in Zielony made between March 2015 and August 2020

Figure 3: The value of turnover in Zielony and the number of transactions in the period 2015-2020 (from 01.01. to 31.07)
70% of transactions carried out using Zielony considered services (e.g. hotel, financial, accountants), 10% - trade, and 20% - sales of products. The disproportion between services, trade and sales has been noticeable since the functioning of currency and during the COVID-19 period, when a significant part of services (e.g. beauty, hairdressing, hotel) have been reduced.

This was related to the appearance of the Ordinance of the Council of Ministers of March 31, 2020 on the establishment of certain restrictions, orders and bans in connection with the occurrence of an epidemic, introducing temporary restrictions for certain institutions or workplaces. From April 1, 2020, this obligation concerned, among others, activities related to hairdressing and other beauty treatments, as well as restaurants and cafes, hotel and boarding services and other accommodation. The opening of hotels and other accommodation places took place as part of the so-called the second stage of defrosting the Polish economy, i.e. from May 4, 2020, and restaurants, cafes, hairdressers and beauty salons as part of the third stage of defrosting the Polish economy, i.e. from May 18, 2020. This means that the above-mentioned entities in the period from On April 1, 2020 until mid-May 2020, they did not conduct any economic activity, and therefore the turnover of the Zielony currency in the aforementioned period was close to zero.

5. Conclusions from research

The benefits of functioning of the local currency, including the functioning of Zielony in Poland in the conditions of ‘normal’ economy, include:

- intermediation in the exchange of goods and/or services in a specific area; interest-free, making it indebted and non-inflationary;
- adjusting the quantity to the needs of local/regional market in which it operates; no possibility of transfer outside the region in which it operates;
- supporting local enterprises and thus increasing the number of jobs, reducing unemployment;
- maintaining of capital in the region.

Moreover, local currencies, including the Zielony one, are not subject to speculation that distorts the essence of money, they are transparent and cheap to use.

Restrictions on the use of local currency arise in specific situations faced by the economy, e.g. in times of economic crisis, unstable economic, social and political situation. The use of local currencies during the COVID-19 epidemic is also not conducive to economic recovery.

The use of local currencies during the economic crisis, but also the epidemiological situation COVID-19 does not contribute to economic boosting. Nor can they be a source of increased economic security in the region during the analysed period. Due to their characteristics and attributes: inability to have debt resulting from keeping cash at the same stable level (which is an important condition for local economic development), handling transactions on the local market without transfer and speculation, negative phenomena and economic processes (inflation and deflation), support for the local goods production sector, stimulating economic development in the region and labour market activation (cf. [28], [29]), the use of local currencies is important especially at the time of recovering from the crisis, or the transition of the epidemic situation to the next phase, which from the point of view of the economy is characterized by its defrosting.

In the first period of the epidemic phase, the economy reacts similarly to the period of the economic crisis: there is a decrease in investment and a decrease in incomes, a decline in consumption or a decline in employment. It is also a period in which selected sectors of the economy are “frozen”, which, due to their specificity, cannot
participate in its functioning during the COVID-19 period for some time. The freeze referred to above causes that the demand for given products and/or services is completely inhibited, which prevents transactions for which the local currency, including Zielony, was not carried out. The lack of commercial transactions in frozen industries means that there is less local currency in circulation or the use of it is abandoned.

In the period of “defrosting” of the economy, economic activity is stimulated, and industries that were shut down in the first phase of the epidemic begin to reactivate when the “epidemic economy” passes to the next phase. Then the demand for goods and/or services that were excluded in the first phase increases, the demand for money, including the Zielony local currency increases, and thus the standard of economic life improves. During this period, the use of local currencies contributes to:

- the protection of local interests in the small and medium-sized enterprises sector (local manufacturing) which, during the COVID-19 period, did not represent local development or local economic security
- supporting local businesses and meeting the needs of a local customer (acts as a catalyst for local entrepreneurship);
- the boost of the local labour market, which, as a rule, is distorted in situations of conflict, crisis, epidemic risk;
- lowering the local unemployment rate, which, from the point of view of the economic security of the local community during the epidemic period and afterwards, is meaningful;
- a bigger activity of the local business environment, through the involvement and cooperation of which the effects of the epidemic threat are less severe;
- the support for the local production and services sector, which, during a period of economic and social turbulence, is exposed to difficulties and dysfunctions;
- the support for local markets, important to ensure the economic security of the local community of the region;

- creating a link between the local community and its business;
- the demonstration of regional identity and the strengthening of social ties (cf. [30], [31], [32]).

The idea of local money, which functioning and the mechanism are independent of the situation on the domestic and international financial market, and above all in the banking sector or on commodity exchanges.

This dependence results from the local range of the local currency and its application in a specific area: city, district, region or voivodship. As a rule, local currencies operate in closed circulation, are not convertible and are not listed on any stock exchange.

**6. Conclusion**

Modern local currencies in Poland are a kind of social contract, covering the business environment. Local currencies are also economic policy tools that can be used to ensure economic security in the local community, region and country.

The effects of using local currency are:
- reduction of external debt;
- no need to take out an interest-bearing bank loan;
- intensification of local economic turnover.

Local currencies support building of communities, cooperative, local economies and promote sustainable development. Local currencies in some way also protect local societies from economic fluctuations.

Although local currencies in the world have been in operation for a long time (starting with the traditional economy model, feudal system, etc.) nowadays they are still regarded as a form of bottom-up initiatives based on the assumptions of social economy, experimental economy, alternative economy and even on the assumptions of modern trends and directions of the market economy: a circular economy, an access economy, or a gig economy. Undoubtedly, their use and increasing popularity, especially during the period of defrosting various sectors of the economy and exiting the COVID-19 pandemic (rather than the pandemic itself) may increase the economic security of the region where the analysed means of payment operate. They are also seen as a specific way of influencing the level of economic security of entities operating and participating in the local market, such as
small and medium-sized enterprises or other entities which operate on it (cf. [33]).

The research results confirm that during a crisis, as well as in other emergency situations (e.g. during the COVID-19 pandemic), the demand for local currencies decreases. It is closely correlated with the purchasing power of consumers, investment demand, consumer demand for goods and services, the prevailing economic and social situation, etc. During the COVID-19 pandemic, investment and consumption demand, as well as the economic situation, are shaken (slowing down). It means, therefore, that in the COVID-19 period, local currencies stimulate the economic situation to a limited extent. Their effectiveness is much higher in the period of recovery from a crisis or pandemic than in their very center.

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Contribution of individual authors to the creation of a scientific article (ghostwriting policy)

Author Contributions:
Nina Stępnicka, Paulina Wiączek, Dariusz Brzozowiec – responsible for organizing and conducting the study, systematizing data, reviewing the literature, developing content. Nina Stępnicka, Paulina Wiączek – was responsible for the analysis, statistics, systematizing data, content development.

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