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INDEX OF THE CYCLE OF MONEY - THE CASE OF CANADA

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Abstract
The purpose of this paper is to apply the theory of the monetary cycle to the case of Canada. In previous works, the economic characteristics of Latvia, Serbia, Bulgaria, Greece, Thailand, and Ukraine were determined according to the concept of the theory of the circulation of money. The money circulation index provides guidance on how an economic system should counteract a currency crisis and examines how well a country's economy is structured. Canada's money cycle index estimates are compared to the world's average money cycle index. The results show that Canada is above the global average. Canada's results show that it is a leading economy and can deal with an economic crisis immediately and in a very short time, as leading economies should. The methodology used is based on the analysis of theory and mathematical, statistical, and econometric results. The current work is important because it presents the strength of the Canadian economy in the face of a possible financial and economic crisis. This work comes from a project for several countries. The recent decision to impose a minimum tax of 15% on international corporations is consistent with the fixed-length principle of the theory of the monetary cycle. The money cycle index or index of the cycle of money makes it possible to address questions about the strength of the economy, considering the economy as an entity that interacts with other economies. The case of Canada shows that its economy has an index of money circulation of 0.88, which means that it is one of the excellent economies and can recover from any economic crisis in 2 to 5 years, depending on how well the authorities will respond to an economic crisis. A value of 0.1 means that it takes 2 to 5 years for an economy to recover from its strength. The ideal economy has a value of 1 on the money circulation index (index of the cycle of money). An economy with a value of 1 can respond immediately to an economic crisis, and this is an ideal level for any economy. Every 0.1 less than 1 means that the economy will take 3 to 5 years to recover. The money cycle index is a unique index that measures the strength of any economy. This work is the only work that can be found in the current bibliography on the money cycle. In addition, this paper is a unique work that shows that tax evasion does not harm the economy but causes a delay in tax revenues, and at the same time tax evasion harms the economy.

Research paper

Keywords: The cycle of money; Canada; Index of the cycle of money

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Introduction

This is the only work that is innovative in the case of tax avoidance and tax evasion, as it shows that they are different things, as in their content (Omolade & Ngalawa, 2017). The index of the cycle of money covers a gap in the bibliography, as GDP cannot estimate and anticipate some things about the economy, such as its structure and it is functionality, something that can only the Cycle of Money can do, as a revolution of GDP (Cai, 2017; Challoumis, 2020d, 2021c; Menguy, 2020; Pircher, 2020; Saraiva et al., 2020).

The theory of the cycle of money achieves to handle a holistic view of any economy as considers it as an economic body that considers its reaction and functionality on its own and with other economies. The theory of the cycle of money allows the transition from GDP to the CM (Cycle of Money). This means that are faced with issues like:

GDP includes the value of the final product, or the value added of each stage, but never that of the intermediate stages. GDP is the total value added to the output of all firms in an economy. At CM this is handled in such a way as to include the intermediate stages, as all productive forces, even the smallest unit of production.

GDP does not include the value of production for home consumption because it is not bought and sold. However, this is taken into account in the CM, as savings are included not only in investment but also in all forms of consumption.

CM represents a breakthrough because it shows the economy as a single economic body reflecting society, i.e. it is qualitative data shown by the index of the monetary cycle.

GDP ignores the composition and distribution of the product, and that is what CM is capable of doing, which makes the difference that small and medium enterprises have to pay lower taxes than larger enterprises. Larger companies must turn to industry and not replace activities that smaller companies can do. This strengthens local banks and does not save money outside a country's economy. Large companies usually save money in tax havens due to excess profits, thus reducing the liquidity (financial blood) of an economy.

GDP does not include the value of the goods of the shadow economy. CM solves this problem because tax evasion and black money, as long as they do not escape the economy, do not harm it, but are merely postponed because they will eventually be taxed either with direct or indirect taxes. At the same time, the black money of tax evasion is the liquid financial blood that is reused, and distributed and does not reduce the dynamism of an economy. In contrast, tax avoidance affects large corporations, which usually keep their money in tax havens and thus reduce liquidity – the financial blood of an economy (Batrancea et al., 2019, 2023).

The theory of the cycle of money is an evolution of GDP, as it is the marginal state of GDP, which reveals that an economic system is an economic body, with liquidity being its economic blood.

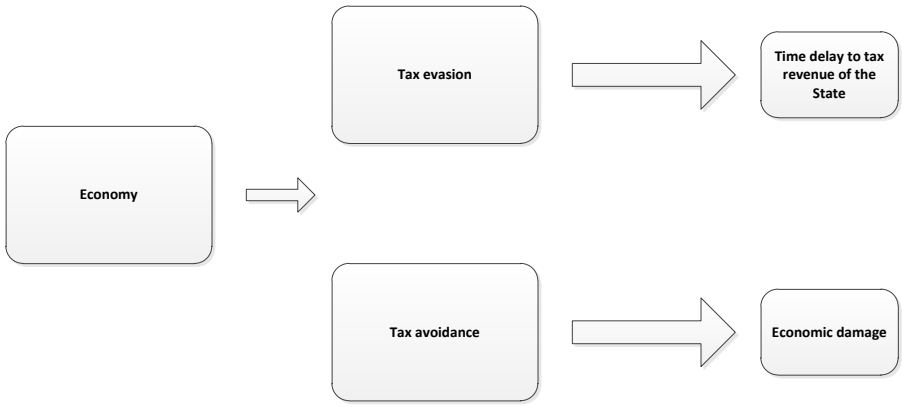

Figure 1. Tax avoidance and tax evasion

This paper examines the dynamic of the economy, of Canada, using the theoretical background of the cycle of money. Prior conclusions of Latvia's, Serbia's, Bulgaria's, Greece's, Thailand's, and Ukraine's results showed the behavior of these countries to a potential crisis. Thus, following similar logic, it is studied the case of Canada. The theoretical background of the cycle of money supports that the dynamic of an economy is formed on the concept of the number of times that money is used in an economy. An economy should be obtained not as a closed system, but as a system with fragments. An economy with fragments means that the economy interacts with other economies but contemporaneously protects its money. An amount of money in many cases is getting out from an economy to external banks, or other economies in other ways. The mainstream is that the bigger companies and the international companies in most cases are saving their money for external banks and economic heavens. Then, according to this theory, the tax authorities should put an additional tax on this kind of company to decline the losses to the economy. Additionally, smaller companies and freelancers should be taxed with lower tax rates. Then, it would be plausible to increase the dynamic of the economy. Also, the factories, the know-how services of

big companies, the health care system, and the educational system comprise a special case for the economy, as belong to those cases where the taxes improve the quality of the economy.

The factories and the big know-how companies increase the cycle of money, as they do not substitute the activities of the small-medium companies and the freelancers. The educational and healthcare systems improve the quality of the economy, making the whole economy better. Therefore, this paper sought to make clear how the concept of the cycle of money, works in an actual case scenario like this of the economic system of Canada. The index of the cycle of money suggests how an economic system ought to counteract a monetary crisis and examines how well-structured is a country's economy. The estimations of the index of the cycle of money in Canada are used for a comparison with the global average index of the cycle of money. The results reveal that Canada is above the average global value and therefore could face an economic crisis, as it is a well-structured economy. The concept of the cycle of money reveals that the taxes return to the economy, in the case of the education and the health care system (these are exclusions from the mainstream where taxes support the economy). But, the mainstream is that the tax authorities should maintain the taxes to the lowest level. For small and medium companies, the government should protect them with very low taxes and contemporaneously should put greater taxes on the larger companies. But, there is a type of big and international companies that should have low tax rates, as these types of companies are not substituting the activities of smaller companies.

These types of big companies are factories and technological know-how companies. The mainstream idea is to have a financial system, with the

best allocation of production. Larger companies should not provide similar products and services, to smaller companies, as they can make investments in economic fields that smaller companies cannot support. Therefore, an economic system succeeds at its best level. Additionally, the idea of the cycle of money shows that with the appropriate allocation of production units and taxes, the money is cycled inside the economy achieving the maximum dynamic of the economy. This paper is about Canada s index of the cycle of money. The research is based on an actual case scenario of a country's economic system. Therefore, the principal hypothesis of this paper aims to estimate the index of the cycle of money in Canada and to answer the question of its near the worldwide general index of the cycle of money, according to the simple index or the general index of the cycle of money. The cycle of money in Canada should be above the worldwide general index of the cycle of money, to be able to counteract a potential depression. The applied approach is based totally on mathematical estimations from the relevant theory. The results confirmed that Canada's economic system is properly established, as it follows the general international index of the cycle of money (the value of 0.5) which represents the average global case (Challoumis, 2020a). Countries over 0.2 and near the value of 0.5 have an appropriate distribution of money to their financial system. Consequently, Canada's economic system is considered well-established, standing on the results of this paper. The question about the way that works the index of the cycle of money to the case of Canada is answered by the structure of its economy and the way that distributed the money to its economy. Besides, it needs some improvements to have an even better index cycle of money.

Therefore, Canada should decrease taxes for small and medium enterprises, to achieve better reuse of money in the country's economic system, and to increase taxes for big and international companies.

The structure of the paper consists of the literature review, methodology, results, discussion, and conclusions.

Literature Review

The instances of Latvia, Serbia, Bulgaria, Greece, Thailand, and Ukraine revealed that are above the limit of 0.2 and in general close to the average rate of 0.5, concluding that these countries can counteract a potential crisis. The fix length principle can enforce the cycle of money. The case of Latvia presented the condition of the country's economy and how to react to an economic crisis, according to the index of the cycle of money. These results are formed on the theoretical approach of the theory of the cycle of money, where this theory presents that to an economy the taxes return to the society, basically to the case of the education and the health system (Challoumis, 2020a, 2021c, 2021f, 2021d, 2021b, 2021e, 2021g). But, the main rule is that the authorities should keep the taxes as low as is plausible, for the medium or small economic units (meaning any kind of economic unit e.g. freelancers), and companies ((ATO) et al., 2012; Ainsworth & Shact, 2014; Boland, 2014; Caldara et al., 2020; Choi et al., 2020; Feinschreiber, 2004; Gihman et al., 1972; Goswami & Purkayastha, 2020; IMF et al., 2017; Irawan et al., 2020; King, 2009; Kushner, 1974; Lerner, 1936; Lindé & Pescatori, 2019; McKay et al., 2016; Merle et al., 2019; Meyer & Rosenbaum, 2000; Mirman, 1971; Nations, 2014; OECD, 2015, 2017; Ossa, 2014; Ross, 2010; United Nations, 2012; Waworuntu & Hadisaputra, 2016; Wijnbergen, 1987;

Wilson, 1986; Zax, 1988). The arm's length principle is the principle that the authorities use to apply taxes to international groups of companies (Challoumis, 2018c, 2019e, 2020d, 2021a, 2022c, 2022b, 2022a). The arm's length principle is the method that the tax authorities to estimate the tax obligations of companies, which participate in international transactions. The authorities using the arm's length principle are tough to obtain the controlled transactions, as the international companies offer similar data to that of the uncontrolled transactions and they are hiding with the purpose to avoid paying taxes. Therefore, the government needs to apply the fixed-length principle. The fixed-length principle indicates that the companies of controlled transactions manage transactions and achieve to avoid tax paying (Rahman et al., 2022, 2023; Shepherd & Wiklund, 2020).

According to the fixed-length principle, international companies should pay plus a fixed amount of tax (IMF, et al., 2017). In that way, the cycle of money is enhanced, because the larger companies generally receive the money from society and the economy and save them for international banks. Therefore, that money is lost from society, diminishing consumption. Then, according to the fixed-length principle, the local companies which save their money on local banks should have lower tax rates (Diallo et al., 2021; Díaz et al., 2020; Ewert et al., 2021; Grabs et al., 2020; Kroth et al., 2020; Martinez & Rodríguez, 2020; Miljand, 2020; Nash et al., 2017; Peres et al., 2020; Romme & Meijer, 2020; Sánchez et al., 2020; Strassheim, 2019).

Concluding, the fixed-length principle serves the theory of the cycle of money, where small and medium companies are paying lower taxes than the larger companies, which substitutes their commercial activities. On the

other hand, the arm's length principle estimates the taxes standing on methodologies provided by the companies that make international transactions. In that way, the large companies cover the activities of the smaller companies. Finally, the mainstream is that small and medium companies robust the distribution of money to a country's economy as usually they don't save their money out of the country's economic system, and reuse the money inside the economy. Therefore, the money distributed inside the economy many times increases the cycle of money (Cai, 2017; Challoumis, 2020d, 2021c; Menguy, 2020; Pircher, 2020; Saraiva et al., 2020). The reason why money increases the cycle of money is obvious according to eq. (4) of the general index of the cycle of money (Acs et al., 2016; Amirkhani et al., 2017; Benevides et al., 2018; Burstein, 2020; de Vasconcelos et al., 2019; Farah, 2011; Goswami & Purkayastha, 2020; John, 2018; Korenik & Wegrzyn, 2020; Leckel et al., 2020; Mackean et al., 2020; Marques, 2019; Maxwell, 2020; McIsaac & Riley, 2020; Montenegro Martínez et al., 2020; Mueller, 2020; Naudé & Dimitri, 2020; "Risk Assessment by Integration Approach of FMEA and Multi Criteria Decision-Making in the Interval Valued Fuzzy Environment: Case Study Hydraulic Pump Manufacturing Industry," 2020; Russo Rafael et al., 2020; Trischler & Charles, 2019; Williamson & Luke, 2020). The last decision of a 15 % minimum tax for international companies complies with the Fixed Length Principle of the cycle of money; where recent years suggested an additional standard tax for these companies as they don't reuse the money for the country's economy, but they save them to tax heaves and to international banks.

Methodology

The methodology applied for the current study is presented below, being in the same line with the presented theory. The calculations of the cycle of money are clarified by the following mathematical types which are applied to prior countries' cases (Challoumis, 2021f):

"$c_y = c_m - c_\alpha$ (1)

$$c_y = \frac{dx_m}{dm} - \frac{dx_m}{da} \quad (2)$$

$$i_{cy} = Y * b_d \quad (3)$$

$$g_{cy\ Country} = \frac{c_{y\ coyntry's}}{c_{y\ Average} + c_{y\ coyntry's}} \text{ or } \frac{i_{cy\ coyntry's}}{i_{cy\ Average} + i_{cy\ coyntry's}} \quad (4)$$

$$g_{cy\ Average} = \frac{c_{y\ Average}}{c_{y\ Average} + c_{y\ Average}} \text{ or } \frac{i_{cy\ Average}}{i_{cy\ Average} + i_{cy\ Average}} = 0.5 \quad (5)$$

The c_m is the velocity of financial liquidity, $c_\alpha$is the velocity of escaped savings and $c_y$is the cycle of money. The i_{cy} is the index of the cycle of money, Y is the national income or GDP, and b_d is the bank deposits of the country. In addition, $g_{cy\ Country}$ symbolizes the general index of c_y of the country, $i_{cy\ coyntry's}\ or\ c_{y\ coyntry's}$ is the index of c_y of the country, and $i_{cy\ Average}\ or\ c_{y\ Average}$ is the global index of i_{cy}. Finally, $g_{cy\ Average}$ is the general global index of c_y, and is obtained as a global constant (Challoumis, 2018c, 2018d, 2019c, 2019g, 2019a, 2020a, 2020d, 2020c, 2020b, 2021c, 2021g, 2021d, 2018e, 2018a, 2018b, 2018f, 2019e, 2019b, 2019f, 2019d).

Therefore, the main hypothesis is to establish the connection between the index of the global average c_y, the bank deposits, and the GDP per capita, with an econometric approach. Then is confirmed the initial hypothesis is that the cycle of money of Canada is above the global average index of the cycle

of money. Eq. (4) and (5) mean that an economy close to the value of 0.5 can face immediately an economic crisis. Results close to this value represent an appropriate index of the cycle of money, revealing an adequate economic structure of the society and then the fine distribution of money between the citizens - consumers. Equation (1) is the term for the cycle of money which used to define the $c_{y\ coyntry's}$ and $c_{y\ Average}$ of eq. (2). The cycle of money to a quantity value is expressed by GDP, which is an expression of $\frac{\partial(\mathrm{GDP})}{\partial(\mathrm{S+I+X})}$ and - $\frac{\partial(\mathrm{GDP})}{\partial(\mathrm{S'+I'+M})}$. Then, $c_y = d(GDP) = \frac{\partial(\mathrm{GDP})}{\partial(\mathrm{S+I+X})} d(\mathrm{S+I+X})$ - $\frac{\partial(\mathrm{GDP})}{\partial(\mathrm{S'+I'+M})}\ d(\mathrm{S'+I'+M})$.

Then, S is the savings, I is the investments and X is the exports. Then, S', is about the savings which are oriented to banks out of the country's economy, I', is about the investments which are oriented to banks out of the country's economy, and M is the imports. Therefore, the cycle of money expresses the GDP as the following one: $Y = S_T + I_T + (X - M), or\ Y = (S - S') + (I - I') + (X - M) or\ Y = \Delta S + \Delta I + (X - M)$. Theoretically, for the lost money from the economies, the problem of controlled transactions could be administrated, if an organization could identify the money transitions between the economies, by a comparison of the global economies, by ΔS, ΔI, and (X-M). Therefore, $c_{ytotal} = \sum_{i=1}^{n}\sum_{t=1}^{m} c_{yi,t} = \sum_{i=1}^{n}\sum_{t=1}^{m}[\frac{\partial(\mathrm{GDP})}{\partial(\mathrm{S+I+X})} d(\mathrm{S+I+X}) - \frac{\partial(\mathrm{GDP})}{\partial(\mathrm{S'+I'+M})}\ d(\mathrm{S'+I'+M})]_{i,t}$. ((ATO) et al., 2012; Abadi, D., Marcus, A., Madden, S., Hollenbach, 2009; Ainsworth & Shact, 2014; Gihman et al., 1972; Heath, T., Bizer, 2011; IMF et al., 2017; King, 2009; Kushner, 1974; Lerner, 1936; Lindé & Pescatori, 2019; McKay et al., 2016; Meyer & Rosenbaum, 2000; Mirman, 1971; Nations, 2014; OECD, 2015, 2017; Ossa, 2014;

United Nations, 2012; Wijnbergen, 1987; Wilson, 1986; Zax, 1988; Dana, 2022). But, because data from an organization for these activities don't exist follows the application of the index of the cycle of money". The cycle of money is an expression of the minus between the differential equations of the volume of money that is used in an economy and the volume of money that are lost from the economy. This is the reason why the theory of the cycle of money supports the higher tax of companies that make controlled transactions and the bigger companies because in that way the smaller companies are using an amount of money multiple times. An exemption is for the high technology companies and the factories, where their activities cannot substitute by smaller companies.

Results

Standing on the prior methodology extracted the following results. This table includes the parameters of bank deposits, GDPs, and the indexes of the cycle of money. This section reveals the dependence of Canada's index of the cycle of money using the bank deposits of Canada's economy and the GDP per capita of Canada's economy. The bank deposits of the global average case and the global GDP per capita are used for the comparison of Canada's economy, its GDP, and the country's bank deposits. The same conclusions come up from an econometric point of view, with the dependent variable being the index of the cycle of money.

Table 1. Canada's OLS regression analysis (Source: author's compilation)

Variable	Coefficient	std. error	p-value
Constant	−6.93464e+06	455603	0.0043***
Canada's bank deposits	46899.7	1211.07	0.0007***
Canada's GDP per capita	153.865	17.6005	0.0128**
Global index of the cycle of money	−0.302758	0.292023	0.4088

In the prior table, the values with two asterisks symbolize the cases that the coefficients are below the 0.05 significant level, and accordingly, the three asterisks are the case of a 0.01 significant level. The indexes reveal Canada's distribution of money and the form of its economic structure (see Table 2). The first three rows of the table reveal that the p-value is important, therefore the initial hypothesis was rejected and the model is accurate. Pursuing those estimations and the theoretical background is determined the condition of the economic structure of the country and if Canada belongs to the very good economies. Should be mentioned that is used the period of 2012 -2017 (Kongats et al., 2019; Salamzadeh, 2014, 2015, 2018; Mackean et al., 2020; Woody & Viney, 2017). It selected that period as was critical for E.U. as many economic formations happened, especially for countries with high debts; affecting other economies. According to these results, it's plausible to clarify the condition of the cycle of money in Canada.

Table 2. Canada's index of the cycle of money (Source: Globaleconomy.com and author's compilation)

Year	Bank Deposits Global Average per GDP (%)	Bank Deposits Canada per GDP (%)	Global GDP per Capita ($)	Canada's GDP per Capita ($)	Index of Global Average Cy ($)	Index of Canada's C_y ($)
2012	52.48	132	16,653.01	46,078.00	873,949.96	6,082,296.00
2013	53.96	131	17,266.62	45,656.00	931,706.82	6,111,936.00
2014	55.81	133	17,159.02	47,408.00	957,644.91	6,319,495.00
2015	59.38	149	15,295.71	47,408.00	908,259.26	7,063,792.00
2016	60.77	157	15,330.03	48,328.00	931,605.92	7,587,496.00
2017	60.07	159	15,082.49	48,609.00	906,005.17	7,728,831.00
RESULTS					**5,509,172.04**	**40,893,846.00**

Should be noticed that Bank deposits are used as a percentage of GDP because in that way it is plausible to extract conclusions, about the whole economy per GDP and to make comparisons easier with other countries. Canada's bank deposits:

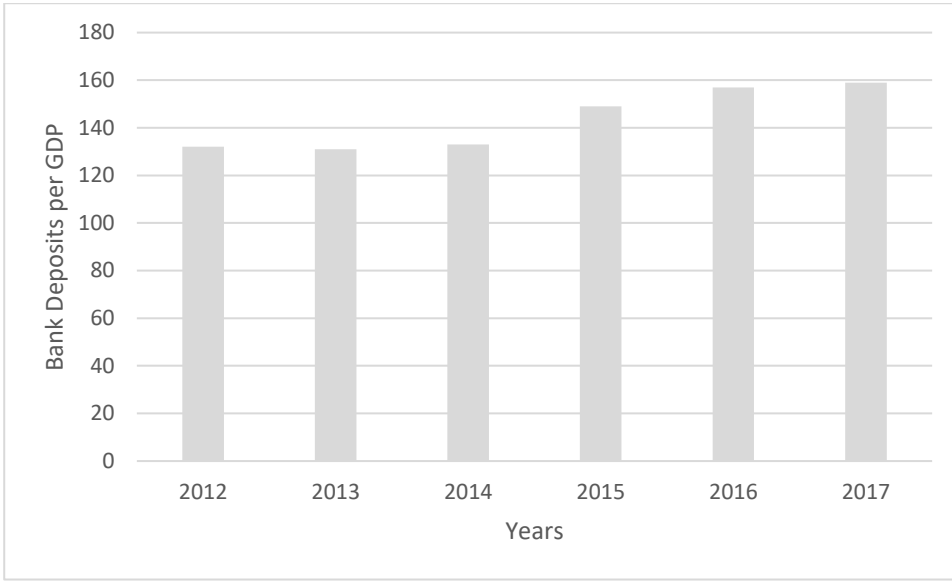

Figure 2. Canada's bank deposits (Source: Globaleconomy.com)

Fig. 2 presents the situation of bank deposits in Canada's financial system, as a percent of GDP, for the period from 2012 to 2017. In addition, the next scheme presented the GDPs of Canada:

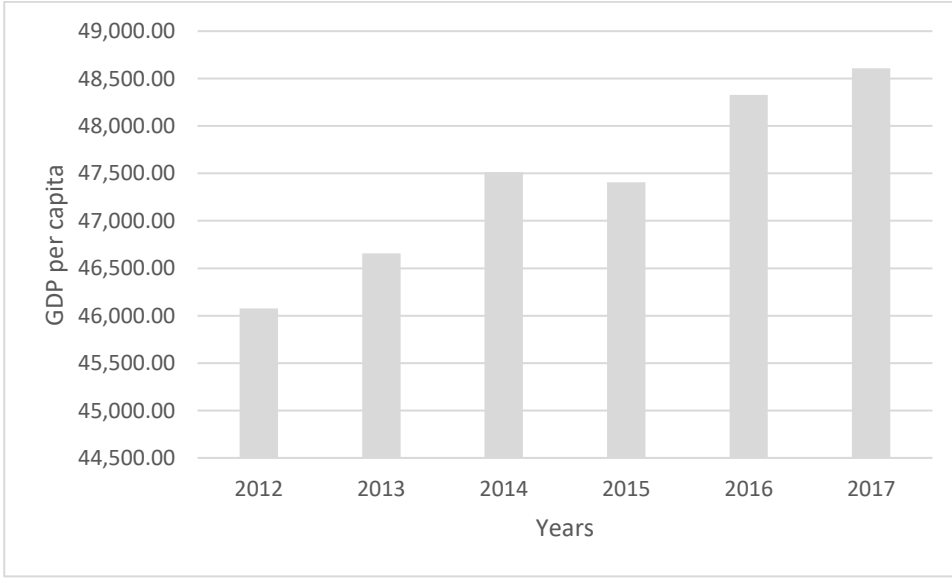

Figure 3. Canada's GDP per capita (Source: Globaleconomy.com)

Fig. 3 presents the condition of the GDPs of Canada's economy for the period from 2012 to 2017

The next scheme presents the GDP of Canada, for the same period.

According to prior results, the index of Canada's c_y is 40,893,846.00$

It is concluded from the prior results that:

The index of the global average c_y is 5,509,172.04 $

Calculating the general index of the cycle of money for the case of Canada and of the global view we have that:

The general index of c_y for Canada is $g_{cy\ Country} = 0.88$

The general index of c_y of global view is $g_{cy\ Average} = 0.5$

Therefore, it is concluded that Canada's index cycle of money is above the global average cycle of money. Then, the dynamic of Canada's economy complies with the global average and its structure is near to the initial hypothesis. Then we receive the next scheme:

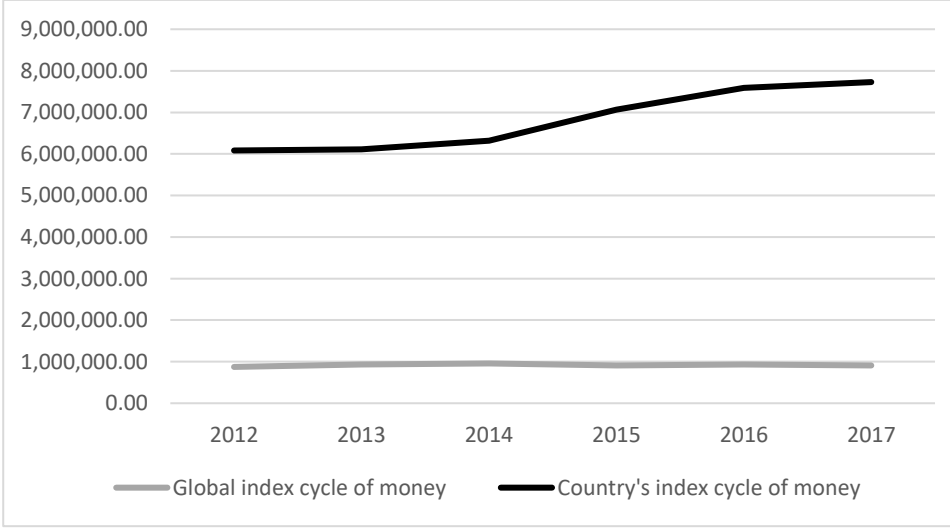

Figure 4. Graph of the index of the cycle of money (Source: author's compilation)

Formed on the prior scheme, it is concluded that the index of the cycle of money of Canada's economy is above the global average of the index of the cycle of money, which is 0.5 (considered as a global constant). Canada's index of the cycle of money is 0.88. Countries over 0.2 can face an economic crisis. As higher is their index, they faster can return to their prior condition. The countries that are near 0.5 have a well-structured economy - standing on eq. (5), according to the theoretical background of the cycle of money. This conclusion means that the economic structure of Canada has an upper distribution of money to its economy. Besides, Canada could proceed to more reforms, as the international and the bigger companies still substitute the local medium and small enterprises. The authorities should apply the fixed-length principle, then higher taxes should be put on the bigger companies. In that way, the distribution of money inside the economy will be increased, and social welfare will be boosted (Tajpour et al., 2022). The government should protect more small and medium enterprises to avoid losing money from transactions of bigger companies.

According to the outcomes of the table, Canada is above the worldwide average index of the cycle of money. From fig. 3 and fig. 4, the index of the cycle of money is revealed Canada's distribution of money is at an upper rate. The cycle of money of the country permits a very good distribution of money. But, the country's economy could be better due to the fact an amount of money is excluded from the local financial system by worldwide transactions (see table 2). The current model complies with the initial assumption, showing the distribution of money to Canada's economy. Canada's economic system tends in the last years to have the same reuse of money inside the financial system as in the past, as tends to have the same characteristics

as a financial system that complies with the idea of the cycle of money. Canada's financial dynamic is above the worldwide average cycle of money, as the estimations that Canada's economy tends to have a good distribution of money. Finally, the shadow market is not a problem according to the theory of the cycle of money, as critical is to keep the money in a country's economy and not move them outside it (Salehi et al., 2023). If money stays in an economy, then it is a matter of time to be taxed by direct or indirect tax. Then, for this reason, international and big companies should be taxed higher than smaller companies, as they substitute their activities and save their money outside the economy. On the contrary, smaller companies use and reuse their money to the economy and save them to local banks, increasing the cycle of money.

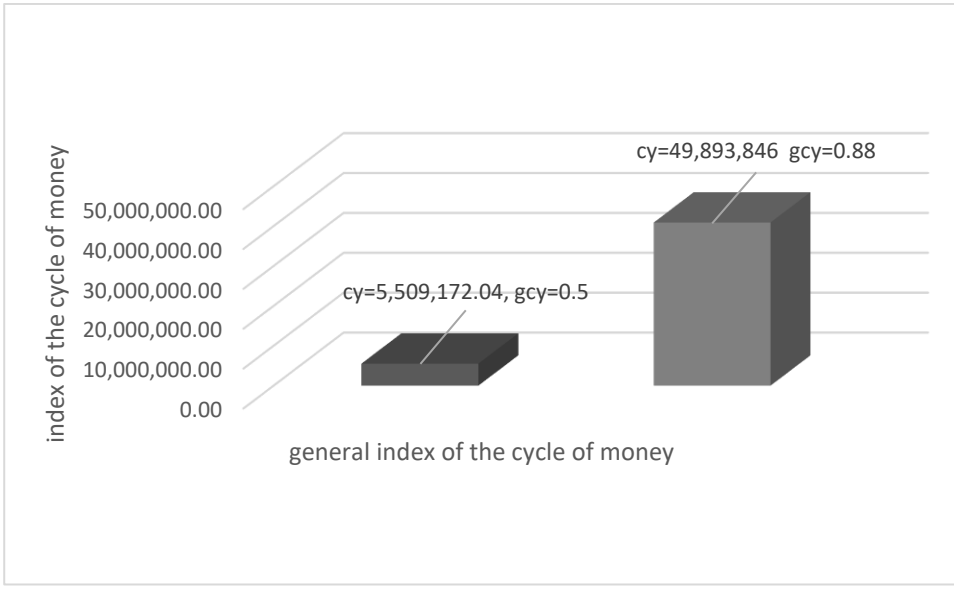

Figure 5. The cycle of money indexes (Source: author's compilation)

The prior scheme has presented the combination of the index of the cycle of money with the case of the general index of the cycle of money. It is

represented the affiliation between the global average indexes and Canada's index. Canada is part of the countries which are above the global average index of the cycle of money, both for the simple index and general index.

Discussion

The current results explain that Canada's financial system belongs to the upper level of the cycle of money, then there has an upper dynamic (Kyewaalabye et al., 2022; Lim & Teoh, 2021; Dana et al., 2022; Farsi et al., 2014;). But Canada's economy could be improved more. Then, the structure of the economy may be improved, with decreased taxes for small and medium companies, and an increase in taxes for the bigger companies. In addition, if the bigger companies have to provide economic activities that smaller businesses can't support, then the authorities ought to imply low taxes on know-how companies and factories. Consequently, big companies must no longer replace smaller businesses' activities. The investments of a country are boosted by the increase in the distribution of money. A country with a well-based economic system is a country with a good cycle of money and therefore it can face an economic crisis. Canada's economic system is above the index of common GDP per capita (meaning the value of 0.5), from 2012 to 2017 using the index of average GDP per capita. The branches of international banks if are included in the system of the economy are considered as part of this economy, then as international banks are considered the banks which keep the money outside the economic system of each economy (meaning especially banks of tax heavens or international banks which keep money out of the economies as part of black money and huge amounts of money that will not return to the countries' economies) (Radović-Marković et al, 2012, 2013;

Salamzadeh et al., 2013, 2023; Salamzadeh & kirby, 2017; Carattini et al., 2018; de Vasconcelos et al., 2019; Jeon et al., 2020; Moreno-Jiménez et al., 2014; Peres et al., 2020; Van de Vijver et al., 2020; Kawamorita & Salamzadeh, 2021; Pereira et al., 2021).

If a country has a low rate of bank deposits per GDP but complies with the theory of the cycle of money, then it is obvious that there is a problem with black money. Black money increases the cycle of money as in some way is reused in the economy but decreases the cycle of money if is deposited outside the economy. So, black money belongs to the grey area, of the economy. But, in any case, the index of the cycle of money reveals if the economy has black money. In addition, the tax policy if it is not able to identify the bigger companies from the smaller companies, means that has a bureaucratic problem, as these identifications should be directly visible to the government's data.

The cycle of money supports free competition and the tax policy of the Fixed Length Principle between the economies, and according to them shows the directions that should be followed by the economy is that companies with big capital should be invested in factories and companies of high technological products, not to substitute products and services that can offer smaller companies. Small and medium enterprises are the most accurate and quick way to develop the private sector in a country, making wider the tax bureau and minimizing with that way the taxes.

A future investigation could be conducted in a different time sequence for the same country. In addition, an investigation could be conducted for the case of tax evasion and tax avoidance, but because of the black money, the investigation of this subject requires a special methodology.

Conclusion

In the context of the results, it is important to note that the money cycle index, also called the money supply index, allows us to answer questions about the strength of the economy by looking at the economy as an entity that interacts with other economies. The Canadian economy has a money circulation index of 0.88, which means that it is one of the excellent economies that can recover from an economic crisis within 2 to 5 years, depending on how well the authorities respond to an economic crisis. A value of 0.1 means that it takes 2 to 5 years for an economy to recover from its peak performance. The ideal economy has a money circulation index of one. An economy with a value of one can respond immediately.

According to the outcomes of the table, Canada is above the worldwide average index of the cycle of money. From fig. 3 and fig. 4, the index of the cycle of money is revealed that Canada's distribution of money is at an upper rate. The cycle of money of the country permits a very good distribution of money. The losses of the local banks are to a minimum degree (Aitken, 2019; J. C. J. M. va. den Bergh, 2009; Fernando, 2022; Hussain et al., 2022; Lai & Zhu, 2022; Leimbach et al., 2017; Newell et al., 2021; OECD, 2020; J. C. J. M. van den Bergh, 2022; Watanabe et al., 2018). But the country's economy could be better due to the fact an amount of money is excluded from the local financial system by worldwide transactions (see table 2). The current model complies with the initial assumption, showing the distribution of money to Canada's economy. Canada's economic system tends in the last years to have the same reuse of money inside the financial system as in the past, as tends to have the same characteristics as a financial system that complies with the idea of the cycle of money. Canada's financial dynamic is above

the worldwide average cycle of money, as the estimations that Canada's economy tends to have a good distribution of money.

In any case, Canada's economy tends to achieve the greater rate of the index of the cycle of money, meaning that belongs to the leading economies. Finally, the shadow market is not a problem according to the theory of the cycle of money, as critical is to keep the money in a country's economy and not move them outside it. If money stays in an economy, then it is a matter of time to be taxed by direct or indirect tax. Then, for this reason, international and big companies should be taxed higher than smaller companies, as they substitute their activities and save their money outside the economy (Lai & Zhu, 2022). On the contrary, smaller companies use and reuse their money to the economy and save them to local banks, increasing the cycle of money.

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