Estimations of the Cycle of Money Without Escape Savings

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Abstract

The theory of the cycle of money without escaping savings is about the distribution of money and the ideal case that there are not any non-return savings. Then, mentioned the importance of the appropriate tax policy. Therefore, this work has determined that the tax policies are in connection with the savings of the companies of controlled and uncontrolled transactions. The appropriate tax policy should apply higher taxes to companies that substitute the economic activities of smaller companies. These companies destroy the structure and the functionality of the economy because the reuse and distribution of money declined. These companies are companies that sell more than one product or service substituting multiple smaller companies. The current analysis has applied the Q.E. method and its econometric approach.

Keywords: Cycle of Money; Escaping Savings

Introduction

This paper is about the ideal case of the cycle of money. This could happen when there are no escape savings. This economic situation has resulted in this market consumption and investments at the maximum level. Therefore, the appropriate tax rate is the key element for the appropriate public policy. The fixed length principle serves the public policy with the lower taxation of uncontrolled transactions and the higher taxation of controlled transactions.
where this condition shows that the money could be saved inside or outside the economic system. The savings that are not saved outside the local financial system are not getting back to the economy, as they are a result of super profits (Challoumis, 2019d, 2019c, 2020a, 2020b, 2020c, 2021c, 2021i, 2021a, 2022a). Then, the distribution and the reuse of money become weaker, as the aggregate amount of money is less than the expected one. The contracts and the agreements between the participants of control transactions are those that determine the allocation of profits and losses. To the agreements should be mentioned the changes in the contracts. This is the reason why the tax authorities should make periodic inspections. The periodic specification of contracts is important for comparability analysis. These periodic inspections of the companies that participate in controlled transactions are crucial for the arm’s length principle. Then, the determination of the cost sharing depends on the periodic check of companies that are tested parties. The scope of the companies of controlled transactions is to face the issues that are connected with the taxation of their activities (Abdelkafi, 2018; Chubarova, Maly, & Nemec, 2020; Diallo, Shults, & Wildman, 2021; Lajas & Macário, 2020; Laplane & Mazzucato, 2020; Mialih, 2017; Prestianawati, Mulyaningsih, Manzilati, & Ashar, 2020; Ribañauskiene et al., 2019; Waardenburg, Groenleer, & De Jong, 2020). Therefore, the requirements for the companies of controlled transactions with the tax authorities should be in the range of the arm’s length principle. Thereupon, the appropriate agreement of the companies of controlled transactions is that which permits them the maximization of their profits in tax environments with low tax rates, and the maximization of costs in economic environments with high tax rates.

In addition, should be notified that the companies of controlled transactions and the same time the inspections of tax authorities are done under the condition of proportional adjustments. The interpretation of the condition of the proportional adjustments is that the companies that participate in controlled transactions many times don’t have the appropriate data and uncontrolled transactions of similar circumstances to compare and therefore they proportionally adjust their data. This means that if the companies that are tested parties conclude that the profits and losses of companies from uncontrolled transactions are much higher or much fewer, they make a proportional analogy to compare them with their data.

Methodology

The tax revenues correspond to the savings that the companies could have if the taxes were avoided. The way that these savings are administrated is different from case to case. Then the benefits of the companies could be managed in a completely different way, as could be saved or could be taxed. The theory of the cycle of money shows when the savings robust the economy and when the taxes robust the economy (Challoumis, 2018b, 2018a, 2019a, 2020c, 2021i, 2021a, 2022a, 2023b, 2023i, 2023f, 2023a, 2023j, 2023g, 2023h, 2023e). This determination must be a separation of savings into the non Returned savings (or escaped savings) and the returned savings (or enforcement savings). For the scope of this analysis below are demonstrated the equations which are:

\[ \alpha = \alpha_s + \alpha_z \text{ or } \frac{1}{\alpha} + \alpha_z \]  
(1)

\[ x_m = m - \alpha \]  
(2)

\[ m = \mu + \alpha_p \]  
(3)

\[ \mu = \sum_{t=0}^{m} \mu_t \]  
(4)

\[ \alpha_p = \sum_{j=0}^{m} \alpha_{pj} \]  
(5)

\[ c_m = \frac{a x_m}{d m} \]  
(6)

\[ c_\alpha = \frac{d x_m}{d \alpha} \]  
(7)

\[ c_y = c_m - c_\alpha \]  
(8)
The variable of $\alpha$ symbolizes the case of the escaped savings (Challoumis, 2018c, 2019b, 2021a, 2022a, 2022b, 2023a, 2023b, 2021g, 2021h, 2021i, 2021f, 2021d, 2021i). This means that we have savings that are not returning to the economy or come back after a long-term period. The variable of $\alpha_s$ symbolizes the case that we have escaped savings that come from transfer pricing activities. The variable of $\alpha_e$ symbolizes the case that we have escaped savings not from transfer pricing activities but from any other commercial activity. For instance, $\alpha_e$ could refer to the commercial activities that come from uncontrolled transactions (Adhikari, Derashid, & Zhang, 2006; AICPA, 2017; Altman, 2012; Forson, 2020; Howlett, 2020; ‘Income taxes, public fiscal policy and economic growth’, 2014; Johnston & Ballard, 2016; Marume, 2016; OECD, 2020b; Pircher, 2020; Porter, 2007; Tummers, 2019; Victral, Grossi, Ramos, & Gontijo, 2020). The variable of $\mu$ symbolizes the financial liquidity in an economy. The variable of $\mu$ symbolizes the consumption in an economy. The variable of $c_m$ symbolizes the velocity of financial liquidity increases or decreases. The variable of $c_\alpha$ symbolizes the velocity of escaped savings (Bartels, 2005; Herrington, 2015; Holcombe, 1998; Khan & Liu, 2019; Maxwell, 2020; Montenegro Martínez, Carmona Montoya, & Franco Giraldo, 2020; Mueller, 2020; Nowicki, 2019; OECD, 2020a; Rashid, Warsame, & Khan, 2020; Ruiz, Jurado, Moral, Ucles, & Viruel, 2017; Russo Rafael et al., 2020; Scholvin & Malamud, 2020; Snow, 1988). Therefore, the variable of $c_\gamma$ symbolizes the term of the cycle of money. Therefore, the cycle of money shows the level of the dynamic of an economy and its robustness. The prior analysis is illustrated in the next scheme:

![Diagram](image)

Figure 2: (a) Cycle of money (b) Ideal case of cycle of money

Fig. 2 (a) shows the case of the escaping savings and the enforcement savings. Then, we have the connection of the higher tax policy for the controlled transactions and the lower tax policy for the uncontrolled transactions which is supported by the fixed length principle. In the model of the cycle of money without the escaping savings [Fig. 2(b)], there is the ideal case where no lost savings happen in the market. Therefore, in the second scheme, we have an economy whose economic dynamic is at the maximum level.
Results

For the mathematical approach to the cycle of money, we use the prior equations subject to the next conditions:

\[ \alpha \approx 0 \]  
\[ x_m \approx m \]  
\[ c_\alpha \approx 0 \]  
\[ c_y = c_m \]

Then, using the prior statements we have that:

\[ \mu > \alpha_p > 0 \]  

Thus, it is obvious that the case of \( \alpha_s \) omitted. After those clarifications, we proceed to the application of the Q.E. method:

Table: Compiling coefficients

<table>
<thead>
<tr>
<th>Factors</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \mu )</td>
<td>0.9</td>
</tr>
<tr>
<td>( \alpha_p )</td>
<td>0.8</td>
</tr>
</tbody>
</table>

The generator of this procedure used the coefficients which appeared in the previous table. Therefore, the factors have an upper limit of 1, and a lower limit of 0, but \( s \) and \( \bar{s} \) are plausible to receive values greater than one as their mathematical structure allows this. After 461 iterations the following diagrams:

![Figure 3: (a) Three-dimensional representation of the cycle of money without the escaping savings (b) Cycle of money without the escaping savings](image)

Fig. 3(a) illustrates the case of the three-dimensional representation of the cycle of money without escaping savings. Then, we obtain from that diagram that \( c_y \) and the \( c_m \) have positive values, and \( c_\alpha \) is approximately equal to zero. Therefore, we obtain from the diagram (a) of the figure that we have a positive and increasing cycle of money. The same conclusion we have from the diagram (b) of Fig. 3. Then we extract the conclusion as the arm’s length principle, the appropriate tax and public policy which aim at the low tax rates for uncontrolled transactions and the higher tax rates for the controlled transactions allow the maximization of utility for the economy. Then we proceed to an econometric analysis with the Q/E.Q. method, where we receive the next results:
In the previous figure, we obtain that the needed variables of the model are stable, as the residuals do not have any important deviation from the expected values. Then the results of the E.Q.E. method are consistent with the residuals of the model, showing that the model is stable.

**Conclusions**

This theory shows the way that tax policy and the structural form of public policy with private investments robust the economy in an ideal case. Taxation in combination with consumption, investments, and savings shows the way that tax authorities indicate the orientation that should have the tax and the public policy. When the economy has no escape savings then the maximum cycle of money is achieved, because the maximum amount of money remains within the economy. There is no need for banks to borrow from the central bank, so the economy has liquidity, and the obligations of the state are reduced and at the same time, there is money for both consumption and investment. The appropriate tax policy should apply higher taxes to companies that substitute the economic activities of smaller companies. These companies are companies that sell more than one product or service substituting multiple smaller companies.

**References**


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