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Principles for the Authorities on Activities with Controlled Transactions

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Abstract

Principles for the authorities on activities with controlled transactions are based on the examination of the utility of the economy and the maximization of the utility of companies of controlled transactions. This paper shows the conclusions about the key elements which authorities and on the other hand the companies of controlled transactions should follow to maximize their utility. Therefore, based on the analysis of the cycle of money are presented significant bullets about the issue of the cycle of money, showing both sides. Then, it is determined that there is a contra behavior between the authorities and the entrepreneurs who participate in controlled transactions.

Keywords: *principles for the authorities, controlled transactions*

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1. Introduction

This paper discusses the issues of the cycle of money, the tax policies, and the public policies, using the velocity of escaped savings, and the velocity of the financial liquidity. This means that are scrutinized the structural economic elements which affect the dynamic of any economy and its robustness. Thereupon, are used the equilibriums of the cycle of money to extract the appropriate conclusions, which are needed about the adequate policies which must follow by the authorities. On the other hand, the same happens for the companies which participate in controlled transactions. Therefore, the authorities and the companies of controlled transactions have opposite roles in many points, but not in all of them. Because there are mixed savings that serve the tax and public policies, and the same happens in factories and research and development services.

2. Cost sharing and the applied methodology

The contracts and the agreements between the participants of control transactions are these which determine the allocation of profits and losses. The agreements should mention any 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 which 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 relate to the taxation of their activities. Therefrom, 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.

Controlled transactions take place through transfer pricing which is important as it involves a large amount of revenue from intragroup transactions. The different types of transactions within intragroups are sales of products, services, intangible assets and finance. The transfer price of the intragroup transaction is decided within the intragroup, but the transfer price is regulated by the tax regulations of different countries and the purchase price. A company within an intragroup is taxed as a separate company. Costs are deductible in intragroup taxation if the costs are allocated from the acquisition of income or to maintain the cost or loss for that intragroup company. When determining the transfer price for sales of products, services, intangibles and financing, the objective is to validate that the selling intragroup and the buying intragroup will accumulate a corresponding profit accruing to an independent unrelated company with a similar market situation. For sales of products, pricing and other terms and conditions must take into account the different sales-related activities performed by the selling company, as well as the type of risks inherent in the two intragroups within the transaction. The activities and risks undertaken by the two companies within the intragroup must be related to the outcome that the company is expected to have.

The impact of activities and risks on the profits of companies within the group naturally varies depending on different industries and different market regions. The marketing activities of the sales company must be considered for the pricing of the product or service. The sales company does not necessarily own the intangible assets, but the marketing activities performed can have a significant impact on the value of the brand within the group. The use of unique intangible assets

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within operations may lead to an inability to choose a comparable one, as comparable transactions with independent parties are not comparable.

Establishing an integrated transfer pricing process is difficult as there are imperfections in the market and department managers must have the freedom to buy and sell outside the intragroup to be able to participate in the negotiation process. A centrally controlled market transfer price can cause friction and bad feelings within the intragroup. The incorrect allocation of resources must be considered at the same time since subsidiaries have the freedom to control their division. The transfer price must be fair to the transaction within the group and comply with the volume principle, as an unacceptable price can be taxed as a distribution of assets (Berchin et al., 2019; Bowling et al., 2019; Delgado Rodríguez & de Lucas Santos, 2018; Hagenaars et al., 2017; Johnston & Ballard, 2016). Transportation pricing regulations apply to both national and international intragroup transactions. In practice, the crucial issue for tax authorities is international transfer pricing transactions, as national transfer pricing errors within the group do not affect tax revenues.

The challenge in transfer pricing is to determine and demonstrate to the authorities that the transfer price applied complies with pricing that would have been agreed between two independent parties. Transportation pricing refers to pricing within an intragroup which means that companies are affiliated enterprises (Acs & Szerb, 2007; Adhikari et al., 2006; de Vasconcelos et al., 2019; "Income Taxes, Public Fiscal Policy and Economic Growth," 2014; Jensen, 2020; Pircher, 2020; Suslov & Basareva, 2020; Waardenburg et al., 2020; Wangsness et al., 2020). Corporations are affiliated enterprises when one party has control of the other party or a third party has alone or together with that person's close government. Power may relate to more than half of capital ownership, more than half of share ownership, the right to appoint more than half of the company's board members or control may be carried out in another way. The third-party about power can also only be a natural person or together with close associates (Bredas Andreas, 2021).

Moreover, 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 which 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 which are tested parties conclude that the profits and losses of companies from uncontrolled transactions are much higher or much fewer than they make a proportional analogy to compare them with their data.

The production of goods or services creates profits and costs for the companies. Based on the prior scrutiny we have that:

$$u = s(zf + \tilde{z}d) \quad (1)$$

$$z = |\tilde{z} - 1| \quad (2)$$

The symbol u is about the impact factor of the comparability analysis which has any method to the s. The symbol z is a coefficient that takes values between 0 and 1. What value could receive is determined by the influence of the method (using the best method rule) to the s. The symbol of

f is about the cost which comes up from the production of goods, and the symbol of d is about the cost which comes from the distribution of the goods.

According to equations from (1) to (2) is plausible to determine the following equations:

$$u_c = zf + \tilde{z}d \quad (3)$$

$$b = (p - u_c) * j_1 \quad (4)$$

The symbol of b in the prior equation is about the amount of taxes that should pay the companies of controlled transactions in the application of the arm's length principle. The u_c is the amount of tax obligations that can avoid through the allocations of profits and losses. Moreover, j_1 is a coefficient for the rate of taxes. Then, equation (5) shows the case of the arm's length principle. In addition the case of the fixed length principle we have the next equation:

$$v = p * j_2 \quad (5)$$

The symbol of v in the previous equation shows the taxes that should pay the enterprises of controlled transactions in the application of the fixed length principle. Then, j_2 is a coefficient for the rate of taxes in the case of the fixed length principle. Thereupon, we conclude according to the prior theory that:

$$v \geq b \quad (6)$$

The tax for the companies which participate in controlled transactions of transfer pricing in the case of the fixed length principle is higher or at least equal to that of the case of the arm's length principle.

Thereupon, with the fixed length principle the enterprises of controlled transactions can tackle issues that come from the allocation of the profits and losses. Thence, the tax authorities can face the transfer pricing effects on the global tax revenue.

The fixed length principle permits the recovery of the tax losses of the global tax revenue from the controlled transactions of the transfer pricing. The next scheme has illustrated the procedure that companies of controlled transactions follow for their allocations of profits and losses, the proportional adjustments of data, and the fixed length principle. Thence, we have that:

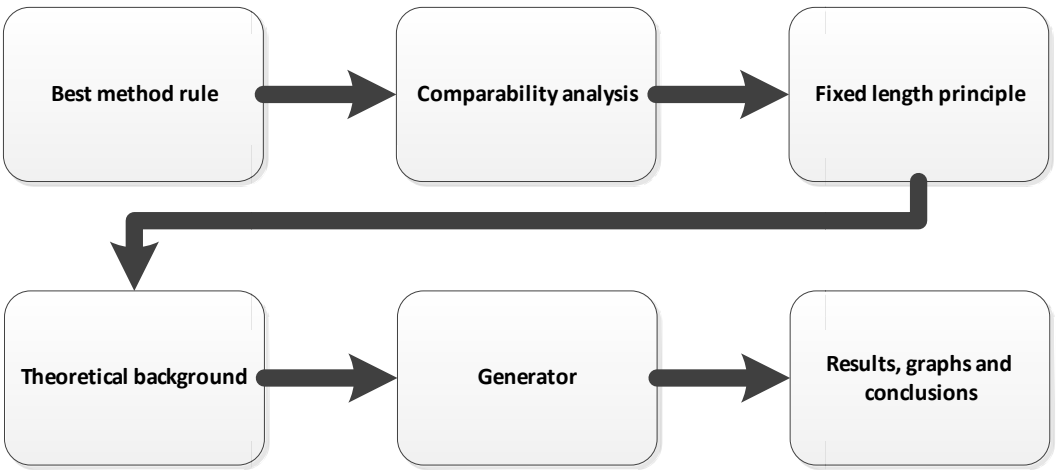

Figure 1: Cost sharing and application of fixed length principle

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Fig. 1 determines the procedure of the fixed length principle and its quantity analysis for the determination of the behavior of the model. The next section presents the theory of the cycle of money. The applied methodology is the Q.E. (Quantifying of Everything) method and its econometric approach (Challoumis, 2018b, 2019b).

3. The cycle of money

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/ It is crucial for this determination to be a separation of savings into 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:

$$\alpha = \alpha_s + \alpha_t, \text{ or, } \frac{1}{v} + \alpha_t \quad (7)$$

$$x_m = m - a \quad (8)$$

$$\mathrm{m} = \mu + \alpha_p \quad (9)$$

$$\mu = \sum_{\iota=0}^{n} \mu_\iota \quad (10)$$

$$\alpha_p = \sum_{j=0}^{m} \alpha_{pj} \quad (11)$$

$$c_m = \frac{dx_m}{dm} \quad (12)$$

$$c_\alpha = \frac{dx_m}{da} \quad (13)$$

$$c_y = c_m - c_\alpha \quad (14)$$

The variable of α has symbolized the case of the escaped savings. This means that we have savings that are not returning to the economy or coming back after a long-term period. The variable of α_s symbolizes the case that we have escaped savings that come from transfer pricing activities. The variable of α_t it symbolizes the case that we have escaped savings not from transfer pricing activities but from any other commercial activity (Challoumis, 2019a). For instance, α_t could refer to the commercial activities which come from uncontrolled transactions. The variable of m symbolizes the financial liquidity in an economy. The variable of μ symbolizes the consumption in an economy. The variable of α_p symbolizes the enforcement savings, which come from the citizens and small and medium-sized enterprises. The variable of x_m symbolizes the condition of financial liquidity in an economy. The variable of c_m symbolizes the velocity of financial liquidity increases or decreases. The variable of c_α symbolizes the velocity of escaped savings. Therefore, the variable of c_y symbolizes the term of the cycle of money. Thereupon, the cycle of money shows the level of the dynamic of an economy and its robustness.

Then, we have the following basic principles about the cycle of money:

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- The citizens, the small and the middle-sized enterprises substitute the services and the property of the companies which save their money and not invest them or consume it proportionally in the economy. Thereupon, the companies of the controlled transactions are the main cause of the escape savings.
- The escaped savings are responsible for the decline of the economic dynamic of the economy. The key point of escape savings is that the companies of controlled transactions of transfer pricing are responsible for not reenter of this amount of money in the market. This situation causes a lack of financial liquidity in an economy.
- The substitution of controlled transactions is not substituted from the citizens and the small and middle size companies when there is not plausible to offer the same added value to the products and the services. This case happens especially in the instance of factories, research centers, etc. Therefrom, these cases in the appropriate tax policy should be taxed as uncontrolled transactions independently if they participate in controlled transactions (using the fixed length principle).
- The enforcement savings are responsible for the high economic dynamic of the economy. Therefore, investments and consumption are these elements that come from the savings of the citizens and the small and middle size companies.
- The velocity of financial liquidity shows how rapidly the economy's robustness grows or declines accordingly. Then is an index for how well structured is any economy.
- The velocity of escaped savings shows how rapidly the non-return savings are lost from the market, or by the lack of investments, or by the lack of consumption.
- The cycle of money represents the condition of the economy. The level of a well-structured tax system, and in general the dynamic of the economy. If this indicator is high then the economy could have high robustness otherwise has low financial liquidity.
- Controlled transactions in the theory of the cycle of money are considered not only the cases of transfer pricing, but any kind of administration of profits and losses to avoid taxation.
- Uncontrolled transactions, in the theory of the cycle of money, are the case of the commercial activity of citizens, small and medium-sized enterprises, factories, research centers, and any kind of commercial activity that cannot substitute by the companies of controlled transactions.
- The fixed length principle tackles issues subjects like the case cycle of money. But, this doesn't mean that restriction must apply the fixed length principle as the cycle of money is more widely theory which exceeds the transfer pricing scope.

Therefrom, we obtain that the cycle of money grows when there is a tax system like the case of the fixed length principle which permits the low taxation of uncontrolled transactions and the higher taxation of controlled transactions. Should be mentioned that as uncontrolled transactions are considered the same happens with the cases of the financial liquidity of citizens and small and middle-size companies.

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Moreover, there are three basic impact factors of rewarding taxes. The rewarding taxes are the only taxes that have an immediate and important role in the market of any economy. These factors are affiliated with education, with the health system of each society, and with the rest relevant structural economic factors of the prior two impact factors. Then using all the factors we have the next scheme:

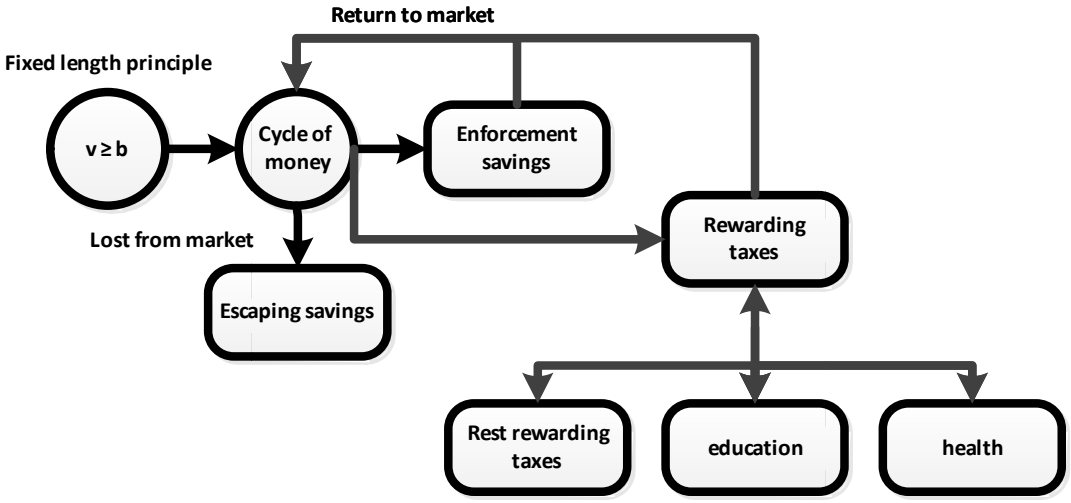

Figure 2: The cycle of money with rewarding taxes

in the previous scheme has represented the cycle of money additionally with all the rewarding tax factors (Challoumis, 2021a). Then, for the rewarding taxes, we have that:

$$\alpha_p = \alpha_r + \alpha_n * h_n + \alpha_m * h_m \quad (15)$$

$$\alpha_r \geq \alpha_n * h_n \geq \alpha_m * h_m \quad (16)$$

The prior two equations used some impact factors, which are the α_p which is also demonstrated in the eq. (11), moreover the variables α_r, α_n, h_n,α_m and the h_m. The variable $\alpha_r$symbolizes the impact factor of the rest rewarding taxes. The symbol of α_n is the impact factor of education and any technical knowledge. The symbol of α_m is about the impact factor of health anything relevant and supporting of this issue. The symbol of h_n, and of the h_m, are the coefficients of the health and the health impact factor accordingly.

4. Definition of mixed savings

Using equations (1) to (16) it is plausible to proceed to the mixed savings. Then, including the mixed savings we have that:

$$\alpha_r = a_{mi} + \sum_{j=1}^{n} (\alpha_r)_j \quad (17)$$

$$\alpha_s = \sum_{k=1}^{m} (\alpha_s)_k \text{ and } \alpha_t = \sum_{v=1}^{d} (\alpha_t)_v \quad (18)$$

$$\alpha_p = \sum_{j=1}^{n} (\alpha_p)_j = \alpha_r + \alpha_n * h_n + \alpha_m * h_m \quad (19)$$

$$a = \alpha_s + \alpha_t = \sum_{k=1}^{m} (\alpha_s)_k + \sum_{v=1}^{d} (\alpha_t)_v \quad (20)$$

$$m = \alpha_p + \sum_{z=1}^{q} m_z \text{ and } 0 \leq a_{mi} \leq 1 \quad (21)$$

In the previous equations, we have the a_{mi} which represents mixed savings. The role of mixed savings is to represent that simultaneously the factories, the research, and the development

centers have escaped savings. The rest symbols are already defined. In the next section, we proceed to the terms of the general equilibriums of velocities of the cycle of money.

5. General equilibriums of velocities of the cycle of money

We proceed to general mathematical representations of these forms, which stand on these equations about the case of the velocity of the escaped savings:

$$c_{\alpha} = c_{a0} * ln(c_m - c_{m0}) \quad (22)$$

$$c_{y\alpha} = b_1[(c_a - c_{a0})^2 + c_{y\alpha 0}] \pm b_2(\frac{1}{c_a}) \pm b_3(\frac{1}{ln\, c_a}) \quad (23)$$

$b_1, b_2, b_3 = 0$ and x_i (24)

$x_i \geq 0$, where i=1,2

In the prior equations the c_{a0} and the c_{m0} are accordingly the initial values of the velocity of escaped savings and the cycle of money. Moreover the equation of $c_{y\alpha}$ represents the general equation of the escaped savings. For the acceptance of the financial liquidity, we have those equations:

$$c_{ym} = b_4[(c_m - c_{m0})^2 + c_{ym0}] \pm b_5(\frac{1}{c_m}) \pm b_6(\frac{1}{ln\, c_m}) \quad (25)$$

$b_4, b_5, b_6 = 0$ and x_i (26)

$x_i \geq 0$, where i=1,2 (27)

$c_{ym} = b_4[(c_m - c_{m0})^2 + c_{ym0}]$,where $b_5, b_6 = 0$ (28)

In eq. (25) it is the general form of the velocity of the cycle of money. The coefficients of b_1, b_2, b_3 took two of them one constant value x_i, and the other one is zero. The same happens with the coefficients of b_4, b_5, b_6 which also two of them takes one constant value x_i and the other one is zero. In that way, we can all the possible combinations of velocities of escaped savings and financial liquidities be defined by two concrete equations.

6. Mathematical approach and analysis of the cycle of money with the velocities of the escaped savings and financial liquidity

Using equations (17) to (27) for that case we have the next equations:

$$c_{y\alpha} = b_1[(c_a - c_{a0})^2 + c_{y\alpha 0} \quad (29)$$
$$c_{ym} = b_4[(c_m - c_{m0})^2 + c_{ym0}] \quad (30)$$

The table of coefficients for the cycle of money is this:

Factors	Values
α_s	0.6
α_t	0.7
μ	0.9
α_p	0.8

Table 1: compiling coefficients

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Applying the Q.E. method with the prior coefficients we have for the behavior of the cycle of money the following scheme:

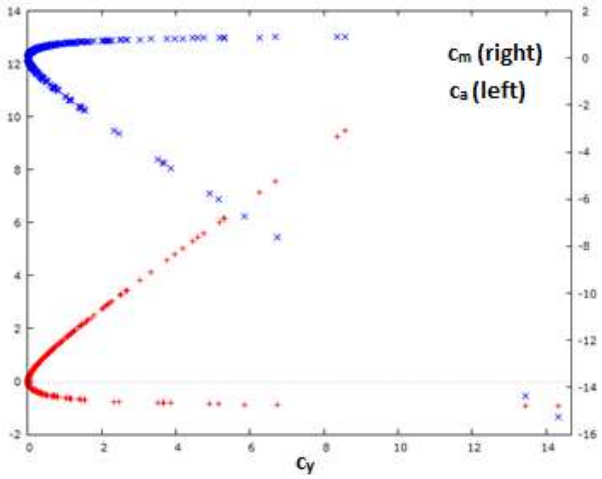

Figure 3: Cycle of money with its velocities

From the previous figure, we have that the cycle of money is connected with the velocity of escaped savings, and with the velocity of financial liquidity (Challoumis, 2020). Thence, we have that the velocity of financial liquidity is positive and the velocity of escaped savings has an opposite orientation. We conclude that initially, the velocity of the escaped savings has a stronger impact on the cycle of money, but finally, the velocity of financial liquidity has a higher impact than the velocity of escaped savings. Then in general the cycle of money in normal economic circumstances has a positive orientation.

7. Mathematical approach and analysis of the cycle of money with the velocities of the minimum escaped savings and of financial liquidity

Using equations (17) to (27) for that case we have the next equations:

$$c_{y\alpha} = b_3\left(\frac{1}{lnc_a}\right) \quad (31)$$

$$c_{ym} = b_5\left(\frac{1}{c_m}\right) \quad (32)$$

The table of coefficients for the cycle of money is this:

Factors	Values
α_s	0.6
α_t	0.7
μ	0.9
α_p	0.8

Table 2: compiling coefficients

Applying the Q.E. method with the prior coefficients we have for the behavior of the cycle of money the following scheme:

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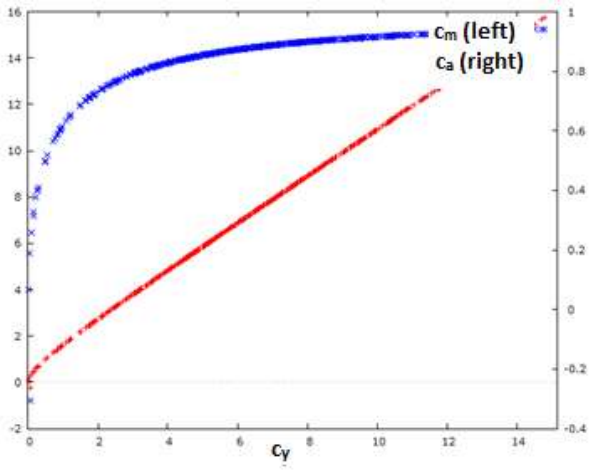

Figure 4: Cycle of money with its velocities

From the previous figure we have that the cycle of money is connected with the velocity of minimum escaped savings, and with the velocity of financial liquidity. Thence, we have that the velocity of financial liquidity is positive and the velocity of minimum escaped savings has an opposite orientation. We conclude that initially, the velocity of the minimum escaped savings has a stronger impact on the cycle of money, but finally, the velocity of financial liquidity has a higher impact than the velocity of minimum escaped savings (which here is approximately equal to zero the escaped savings). Then in general the cycle of money in the case that the escaped savings are approximately equal to zero the economic economy is at its higher level. Thence, when the escaped savings are approximately zero, the velocity of escaped savings becomes linear, from a logarithmic form.

8. Mathematical approach and analysis of the cycle of money with the velocities of the escaped savings and minimum financial liquidity

Using equations (17) to (27) for that case we have the next equations:

$$c_{y\alpha} = b_1[(c_a - c_{a0})^2 + c_{y\alpha 0}] \quad (33)$$

$$c_{ym} = b_4[(c_m - c_{m0})^2 + c_{ym}\ ] \quad (34)$$

The table of coefficients for the cycle of money is this:

Factors	Values
α_s	0.6
α_t	0.7
μ	0.9
α_p	0.8

Table 3: compiling coefficients

Applying the Q.E. method with the prior coefficients we have for the behavior of the cycle of money the following scheme:

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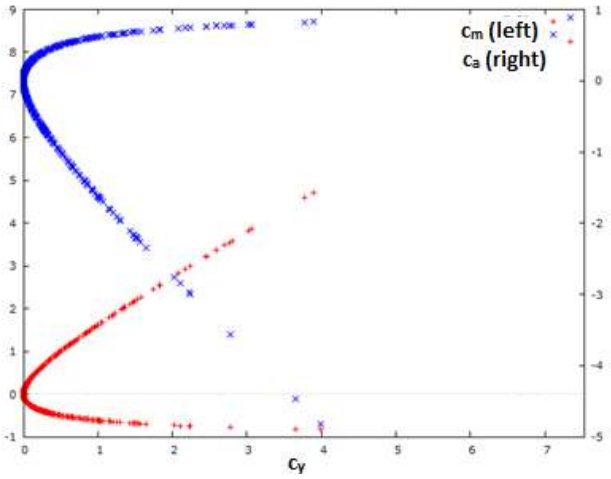

Figure 5: Cycle of money with its velocities

From the previous figure, we have that the cycle of money is connected with the velocity of escaped savings, and with the velocity of minimum financial liquidity. Thence, we have that the velocity of minimum financial liquidity is positive and the velocity of escaped savings has an opposite orientation. We conclude that the velocity of financial liquidity and the velocity of escaped savings are low, showing that the cycle of money is weak in that case.

9. Mathematical approach and analysis of the cycle of money with the velocities of the escaped savings and financial liquidity subject to mixed savings

Using equations (17) to (27) for that case we have the next equations:

$$c_{y\alpha} = b_1[(c_a - c_{a0})^2 + c_{y\alpha 0}] \quad (35)$$

$$c_{ym} = b_4[(c_m - c_{m0})^2 + c_{ym0}] \quad (36)$$

The table of coefficients for the cycle of money in the case of mixed savings is this:

Variables	Coefficients
$1 - a_{mi}$	0.6
$\sum_{k=1}^{m} (\alpha_r)_k$	0.6
α_t	0.7

Table 4: compiling coefficients

Applying the Q.E. method with the prior coefficients we have for the behavior of the cycle of money subject to mixed savings the following scheme:

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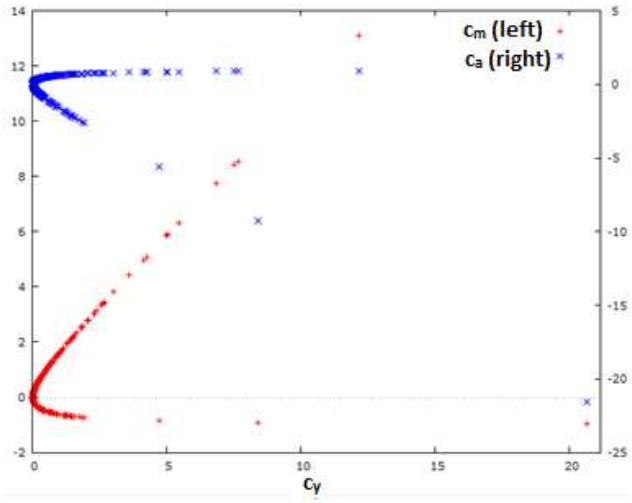

Figure 6: Cycle of money with its velocities

From the previous figure, we have that the cycle of money is connected with the velocity of escaped savings, and with the velocity of financial liquidity. The mixed savings enhance the economy. Thence, we have that the velocity of financial liquidity is positive and the velocity of escaped savings has an opposite orientation. We conclude that initially, the velocity of the escaped savings has a stronger impact on the cycle of money, but finally, the velocity of financial liquidity has a higher impact than the velocity of escaped savings. Then in general the cycle of money in normal economic circumstances has a positive orientation. The mixed savings help the economy to overcome these initial disturbances more rapidly.

10. Mathematical approach and analysis of the cycle of money with the velocities of the escaped savings and of financial liquidity subject to minimum mixed savings

Using equations (17) to (27) for that case we have the next equations:

$$c_{y\alpha} = -\, b_2\left(\frac{1}{c_a}\right) \tag{37}$$

$$c_{ym} = -\, b_6\left(\frac{1}{\ln c_m}\right) \tag{38}$$

The table of coefficients for the cycle of money in the case of mixed savings is this:

Variables	Coefficients
$1 - a_{mi}$	0.8
$\sum_{k=1}^{m} (\alpha_r)_k$	0.6
α_t	0.7

Table 5: compiling coefficients

Applying the Q.E. method with the prior coefficients we have for the behavior of the cycle of money subject to minimum mixed savings the following scheme:

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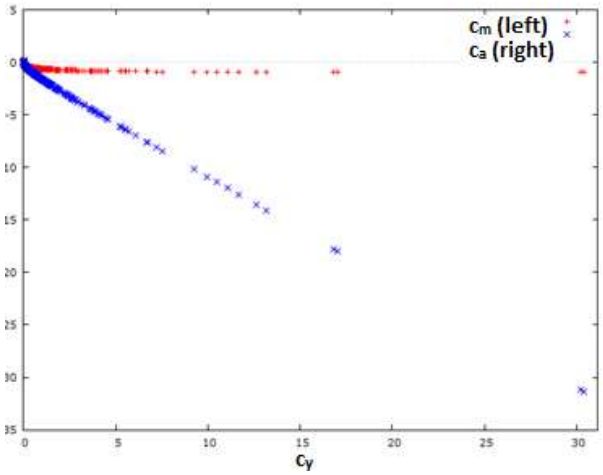

Figure 7: Cycle of money with its velocities

From the previous figure, we have that the cycle of money relates to the velocity of escaped savings, and with the velocity of financial liquidity (Challoumis, 2018a, 2021b). The low mixed savings enhance the economy. Thence, we have that the velocity of financial liquidity is positive and the velocity of escaped savings has an opposite orientation. The low mixed savings don't support the economy because the absence of savings for factories and research and development centers declines the robustness of the economy. This explains why the industrial countries have a weaker cycle of money, and therefore lower dynamics in their economy.

11. Mathematical approach and analysis of the cycle of money with the velocities of the escaped savings and financial liquidity subject to maximum mixed savings

Using equations (17) to (27) for that case we have the next equations:

$$c_{y\alpha} = b_3\left(\frac{1}{ln\, c_a}\right) \quad (39)$$

$$c_{ym} = b_5\left(\frac{1}{c_m}\right) \quad (40)$$

The table of coefficients for the cycle of money in the case of mixed savings is this:

Variables	Coefficients
$1 - a_{mi}$	0.2
$\sum_{k=1}^{m} (\alpha_r)_k$	0.6
α_t	0.7

Table 6: compiling coefficients

Applying the Q.E. method with the prior coefficients we have for the behavior of the cycle of money subject to maximum mixed savings the following scheme:

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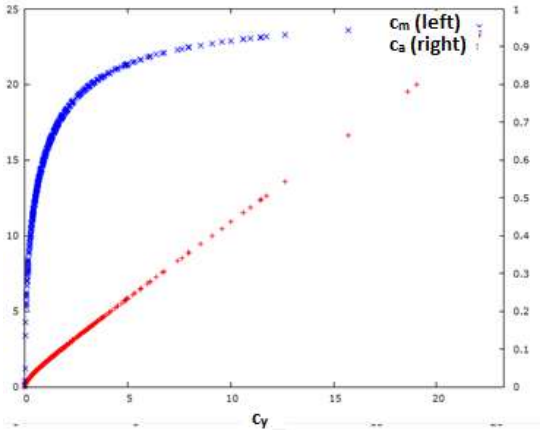

Figure 8: Cycle of money with its velocities

From the previous figure, we have that the cycle of money is connected with the velocity of escaped savings, and with the velocity of financial liquidity. The high mixed savings enhance the economy. Thence, we have that the velocity of financial liquidity is positive and the velocity of escaped savings has an opposite orientation. The high mixed savings enforce the economy, because the savings of factories with the research and development centers have o positive role in an economy, as there their transactions could not be substituted by other units, like the middle and the small companies, or by the citizens. This explains why industrial countries have a greater cycle of money, and therefore higher dynamics in their economy.

12. Conclusions about the authorities and the companies which participate in controlled transactions

The bullets for the maximization of the utility for the tax authorities are these:

- The taxation of the companies which participate in controlled transactions must be subject to the fixed-length principle.
- The units which could not be substituted should have lower taxation (i.e. factories, R&D – Research and Development centers).
- The taxation of middle and small companies should be very low, and the same happens for the citizens as are considered as small economic units.
- In general, the wide investments (from the small and middle companies) increase the cycle of money. On the hand, compact investments, from big-size companies which substitute for the small and middle enterprises decrease the cycle of money. This doesn't happen for the factories and the R&D centers, which use mixed savings.

The bullets for the maximization of the utility for the enterprise of controlled transactions are these:

- The companies of controlled transactions should initially aim at economies with high financial liquidity.

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- Then, when these economies become weaker by them, based on the analysis of the cycle of money, should change economic environments, and transect to these economies which have a higher cycle of money.
- Thence, these companies should not stay for a long term in any economy, as the enforcement savings, by their attitude, will be diminished by the increase of the escaped savings.
- These companies will become monopoly or oligopoly companies as the economies where they are will become weaker. Then the authorities will increase the taxation on them, and if this doesn't happen then these companies will not have any more profits. Therefore, should change the economic environment to increase their profits.

Appendix

```
%Q.E. 2017©® Constantinos Challoumis for Transfer Pricing

as=0;
at=0;
xm=0;
m=0;
m1=0;
ap=0;
cm=0;
ca=0;
cy=0;
t=0;

while t<10
   t=t+1;

if rand()<9
   as=0.6*rand();
end

if rand()<9
   at=0.7*rand();
end

if rand()<9
   m1=0.9*rand();
end

if rand()<9
   ap=0.8*rand();
end

a=as+at;
m=m1+ap;
```

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```
xm=m-a;
cm=xm/a;
ca=xm/m;
cy=cm-ca;


tab=[a,xm,m,cm,ca,cy;tab];
end
```

References

1. Acs, Z. J., & Szerb, L. (2007). Entrepreneurship, economic growth and public policy. *Small Business Economics*, *28*(2–3). https://doi.org/10.1007/s11187-006-9012-3
2. Adhikari, A., Derashid, C., & Zhang, H. (2006). Public policy, political connections, and effective tax rates: Longitudinal evidence from Malaysia. *Journal of Accounting and Public Policy*, *25*(5). https://doi.org/10.1016/j.jaccpubpol.2006.07.001
3. Berchin, I. I., Nunes, N. A., de Amorim, W. S., Alves Zimmer, G. A., da Silva, F. R., Fornasari, V. H., Sima, M., & de Andrade Guerra, J. B. S. O. (2019). The contributions of public policies for strengthening family farming and increasing food security: The case of Brazil. *Land Use Policy*, *82*. https://doi.org/10.1016/j.landusepol.2018.12.043
4. Bowling, S. J., Boyland, L. G., & Kirkeby, K. M. (2019). Property Tax Cap Policy in Indiana and Implications for Public School Funding Equity. *International Journal of Education Policy and Leadership*, *15*(9). https://doi.org/10.22230/ijepl.2019v15n9a881
5. Bredas Andreas. (2021). ΕΝΔΟΟΜΙΛΙΚΕΣ ΣΥΝΑΛΛΑΓΕΣ. Η ΜΕΘΟΛΟΓΙΑ ΤΕΚΜΗΡΙΩΣΗΣ ΚΑΙ ΤΑ ΠΡΟΒΛΗΜΑΤΑ ΤΗΡΗΣΗΣ ΤΗΣ ΑΡΧΗΣ ΤΩΝ ΙΣΩΝ ΑΠΟΣΤΑΣΕΩΝ ΣΕ ΕΛΛΗΝΙΚΕΣ ΕΤΑΙΡΙΕΣ. In *University of Thessaly*. https://ir.lib.uth.gr/xmlui/?locale-attribute=en
6. Challoumis, C. (2018a). Methods of Controlled Transactions and the Behavior of Companies According to the Public and Tax Policy. In *Economics* (Vol. 6, Issue 1). https://doi.org/10.2478/eoik-2018-0003
7. Challoumis, C. (2018b). Q.E. (Quantification of Everything) Method and Econometric Analysis. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.3150101
8. Challoumis, C. (2019a). The cycle of money with and without the escaped savings. *Ekonomski Signali*, *14*(1), 89–99. https://doi.org/336.76 336.741.236.5
9. Challoumis, C. (2019b). Theoretical analysis of fuzzy logic and Q. E. method in econo-mics. *IKBFU's Vestnik*, *2019*(01), 59–68. https://doi.org/330.42
10. Challoumis, C. (2020). Analysis of the Theory of Cycle of Money. *Acta Universitatis Bohemiae Meridionalis*, *23*(2), 13–29. https://doi.org/https://doi.org/10.2478/acta-2020-0004
11. Challoumis, C. (2021a). Chain of cycle of money. *Acta Universitatis Bohemiae Meridionalis*, *24*(2).
12. Challoumis, C. (2021b). Index of the Cycle of Money - The Case of Latvia. *Economics and*

ISSN 2697-2212 (online), Published under Volume 30 in Jun - 2023

Culture, *17*(2), 5–12. https://doi.org/10.2478/jec-2020-0015

13. de Vasconcelos, F. de A. G., Machado, M. L., de Medeiros, M. A. T., Neves, J. A., Recine, E., & Pasquim, E. M. (2019). Public policies of food and nutrition in Brazil: From Lula to Temer. *Revista de Nutricao*, *32*. https://doi.org/10.1590/1678-9865201932e180161
14. Delgado Rodríguez, M. J., & de Lucas Santos, S. (2018). Speed of economic convergence and EU public policy. *Cuadernos de Economia*, *41*(115). https://doi.org/10.1016/j.cesjef.2017.01.001
15. Hagenaars, L. L., Jeurissen, P. P. T., & Klazinga, N. S. (2017). The taxation of unhealthy energy-dense foods (EDFs) and sugar-sweetened beverages (SSBs): An overview of patterns observed in the policy content and policy context of 13 case studies. In *Health Policy* (Vol. 121, Issue 8). https://doi.org/10.1016/j.healthpol.2017.06.011
16. Income taxes, public fiscal policy and economic growth. (2014). *E-Finanse*, *10*(3). https://doi.org/10.14636/1734-039X_10_3_001
17. Jensen, P. H. (2020). Experiments and evaluation of public policies: Methods, implementation, and challenges. *Australian Journal of Public Administration*, *79*(2). https://doi.org/10.1111/1467-8500.12406
18. Johnston, C. D., & Ballard, A. O. (2016). Economists and public opinion: Expert consensus and economic policy judgments. *Journal of Politics*, *78*(2). https://doi.org/10.1086/684629
19. Pircher, B. (2020). EU public procurement policy: the economic crisis as trigger for enhanced harmonisation. *Journal of European Integration*, *42*(4). https://doi.org/10.1080/07036337.2019.1666114
20. Suslov, V. I., & Basareva, V. G. (2020). ECONOMIC DEVELOPMENT AND PUBLIC POLICY: SCANDINAVIA AND SIBERIA. *Interexpo GEO-Siberia*, *3*(1). https://doi.org/10.33764/2618-981x-2020-3-1-209-218
21. Waardenburg, M., Groenleer, M., & De Jong, J. (2020). Designing environments for experimentation, learning and innovation in public policy and governance. *Policy and Politics*, *48*(1). https://doi.org/10.1332/030557319X15586040837640
22. Wangsness, P. B., Proost, S., & Rødseth, K. L. (2020). Vehicle choices and urban transport externalities. Are Norwegian policy makers getting it right? *Transportation Research Part D: Transport and Environment*, *86*. https://doi.org/10.1016/j.trd.2020.102384