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# The Point of the Message is Something Different

Comments on the Article of András Simonovits Entitled: Family Allowance and Pension Dependent on the Number of Children: Optimality and Neutrality

SUMMARY: The polemic article of András Simonovits , published in the current issue (Simonovits, 2020), was particularly fast: he reacted to my paper published in the previous issue – even before its publication – by always showing me the current stage of his article while he was continuously elaborating it, and sometimes (but generally not) taking my comments and recommendations. The reason why I can respond so fast to his article published herein is that he immediately shared with me the final version accepted by the quarterly, for which I am thankful to him. The article does not contain any particular criticism. Actually, it illustrates the extreme cases of my theory and adds some subtlety, which is achieved by the introduction of child specific consumption  $\varphi$ . His main problem is that I do not substantiate my message with a mathematical model, and that with my article I distract the attention from other more important topics. We can argue about the usefulness of mathematical models; I think I will need them at a later stage of the detailed explanation of my theory, but at this stage they would only be impediments. As far as the diversion of attention is concerned, that is clearly a misconception. In my response article, I will demonstrate that the point of my message is something totally different from what Simonovits thinks it is, and also that my point is difficult to grasp with his model. The essential difference is that I do not primarily address the lifetime optimisation of individual consumption (including the pension system), but the contradictions of the pension system. Nonetheless, I will try to present my actual statements.

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The article is structured as follows. First, I will make a difference between my main statements and those that Simonovits attributes to me. Then, I will demonstrate that Simonovits only shows a very specific case of my model with his own models, and not even the problems I focus on. After that, I will show what Simonovits should have demonstrated, then what the solution I recommend actually is – of course, within a framework that the model of Simonovits does not make at all possible.

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#### MY REAL STATEMENTS AND HOW SIMONOVITS REWROTE THEM

Simonovits makes it look like that the main difference between him and me is that I want to recognize and support child-rearing with pension, while he wants to do the same with family allowance. His whole article is based on this distinction. This is such a rough simplification of my message that it is already falsification. For this reason, I will briefly summarise what I am actually saying, which is much richer than what he suggests, and furthermore its point is something completely different.

My main statement is that the current pension system, the so called a pay-as-you-go (PAYG) system, is defective in principle and therefore requires fundamental correction. The point of this correction should involve reversing the system to its implicit basis: investment in human capital. Therefore, there is an internal logical connection between the public pension system and child-rearing, which is not reflected by the current defective system. This has highly detrimental effects on both the pension system and fertility.

system The PAYG distributes the contributions paid by the generations after the pensioners amongst retired persons in the form of pension. In essence, this system lives on the "returns" on investment of human capital accumulated in future generations, but its yield (plus the repayment of invested capital) is not distributed among the stakeholders (i.e. the contribution is not converted into allowance that way) according to the ratio of the contribution of each individual to this investment, but based on a very different principle, namely, according to the amount of contribution paid by the individuals into the system in their active period. The defect is that the devotees of the PAYG system discovered a superficial similarity between this systems

based on human capital and the traditionally funded systems, where it is really the payment that is the ultimate source of the pension after being invested. In the PAYG system, however, the function of the contribution is something totally different: it is not the investment side but the returns side (i.e. it is wrong to consider it as a payment giving rise to rights, as it is the repayment by the child raised). The investment here is child-rearing and all the costs associated with it. Not considering childrearing as the investment of the system results in the stakeholders not being able to recover the expenses of child-rearing. In other words, child-rearing becomes a "bad deal" for them, and they will only do it if they can afford it. Therefore, this investment of fundamental importance for the society becomes luxury consumption. No wonder that fewer and fewer people will raise such an expensive thing at home, and that they will rather switch to owning a dog or a cat, which is cheaper. In addition, the fact that the payment of contributions is made the basis of pension will result in people measuring the rate of their pension to the payment of contribution, while the two have nothing to do with one another. Indeed, they can receive as much pension regardless of how much contribution they paid - as the contribution that active persons can pay right now, that is, the possible pension will only depend on the number of children raised and their ability to pay contribution.

It follows from the foregoing that the PAYG pension system should be transformed in a way that:

- the pension will only be due in proportion of the efforts to raise children. That is to say, pension will depend on the number and "quality" of children, i.e. their ability to pay contribution. This latter can be measured, for example, with the educational attainment of the child;
- nothing is due for contribution, because it

is on the returns side, but it is compulsory to pay, because this is how everyone pays back the costs of their raising;

- the pension is not only due to those directly raising the child, because child-rearing is partially financed from taxes. School education, health care, the different allowances provided to the parents (family housing support programme, tax allowance etc.) are such parts financed from taxes, and yes, also family allowance. The latter is the only one recognized by Simonovits as such – obviously mistakenly, but according to the logics of the simple model that he applies legitimately, because it is the only thing that his model can handle;
- those who do no raise children must put aside the money saved by not raising a child, so that they can supplement their pension from this money put aside to the level of those with children.

Thus, on the whole, it has to be achieved that child-rearing becomes a recoverable deal, which is – ultimately – financed by the raised child himself/herself in the form of pension contribution. If this is achieved, it will not matter how many children are raised, because there will always be pension; the only question that remains is to what extent pension derives from savings and to what extent from investment in human capital.

In the system described it is also irrelevant to what extent child-rearing is financed from taxes and to what extent exclusively from the efforts of the parents. If mainly from taxes, then a larger part of the contribution will be distributed in proportion to tax payment even among childless persons; if, however, it is not at all financed from taxes, childless persons will not receive pension from the children's contribution. (And here it is important to mention another thing. The objective of the system I recommend is not to encourage more and more people to have children, but to create a logical and sustainable pension system instead of the current silly and inadequate system. The system itself will be okay with ANY number of children, i.e. it will be CHILD NEUTRAL – contrary to the current one preferred by Simonovits, which assumes and requires the existence of many children, but encourages to have few children.)

Here, we should return to what Simonovits simplified my message to. He thinks that my main statement is that I want child-rearing 100 percent financed by the parents, and he wants child-rearing which is 100 percent financed from taxes. This is not true: I am talking about something totally different! I consider it self-evident that, for example, school should not be paid by the parents but by the taxpayers. I have nothing against family allowance or any other child benefit either. But I do state that these things are far from compensating the efforts of the parents associated with child-rearing (they just do so in a proportion of approximately 30-40 percent), and that it is even essentially impossible to achieve 100 percent. The reason is the difference in the parents' financial positions. I envisage a system where the average expenses of child-rearing and not the actual individual efforts are reimbursed, because the latter is impossible and not even desirable. In contrast, Simonovits thinks that it is possible; what is more, he goes even further by making the surprising statement that this is what is happening today, too!

However, it makes sense why Simonovits simplified my statements. What I am saying here can only be illustrated in a multi-periodic model, but Simonovits chose the simplest oneperiodic model, which is inadequate to model these problems, so only simple problems can be demonstrated with it. They, however, do not contradict my theory, only illustrate it. Let's look at it in more details.

#### THE MODELS OF SIMONOVITS AS SPECIAL (AND IRRELEVANT) CASES

Simonovits makes a big deal about an utterly simple model, but his message can be summarised very briefly. He assumes that life consists of three stages (childhood, active adulthood, retired old age), where a person should live on the (uniformly) 1 income earned in the active period in their whole life. Some people have children, others don't, but the average number of children per adult is 1, so the population is stationary. The consumption of the child is  $\varphi$  times the adult's consumption. People seek to smooth their consumption, so they want to consume as much in their old age as in their young (active) age. This is called by him optimality. He examines the different transfer systems according to whether the consumption of persons with children and those without children is equal in them. If it is, then what he calls neutrality is achieved.

It is obvious that under these conditions one individual on average consumes 1 in their whole life (what they earn in their young active age), which they must divide into  $2+\varphi$ parts if their consumption is optimal. That is to say, their consumption in adulthood is  $1/(2+\varphi)$  per period. (Simonovits "suspects" this in a theorem, then also "proves" it.) If the transfers are able to ensure this, neutrality will be achieved. If there are no transfers, then not; in this case the consumption of childless persons will be  $1/(2+n\varphi)$ , where *n* represents the number of children of persons with children. This is obviously not a neutral case.

After that, he "plays" with how to name the transfers. If they are called family allowance, persons with children will receive just as much from childless people to raise their consumption to the average level of  $1/(2+\varphi)$ , and that of childless persons will reduce to the same level. This corresponds to the case

in my theory, where all burdens of childrearing are financed from public charges. Then Simonovits examines if it is possible to reimburse child-rearing costs exclusively in the form of pension. He concludes that it is only possible if  $n\varphi \leq 1$ , otherwise family allowance is also necessary. This can also be readily accepted (I am not following here either Simonovits's superfluously complicated train of thoughts, because actually he is saying a very simple thing) as at this point it will not be true anymore that the total expenditures of persons with children spent on children are still lower than or equal to their adult consumption. If, however, the consumption of the children exceeds this limit, and the person with children gets back their expenditure spent on the children in their old age, then they will get back more than what their active age consumption was, so the requirement of smoothing consumption, i.e. optimality will not be met. This problem can be avoided by giving family allowance to persons with children, at least partly.

This is totally fine, but does not work well as criticism, because it has never been my objective that not family allowance, but pension should be given – only Simonovits said this to have something to criticise. Therefore, what he is saying can only be considered as a – superfluously overcomplicated – illustration of my message in very specific cases.

However, the actual point of my message cannot be presented by the tools outlined in Simonovits's article, as:

• there are not any different consecutive periods in his model, while the point of my message is linked to the money flowing through periods,

through his abstractions (stationary population in particular) he considers the problem that I want to addressed (from the aspect of the pension system), namely that there are not enough children (i.e. the

population decreases at an ever faster rate) a priori solved.

I try to demonstrate below what I thought of by using the markings of Simonovits. I will focus on two things:

• what is actually happening in today's pension system (and it is not what Simonovits suggests!),

What would happen by comparison in the system I recommend (I will demonstrate this through a very simple case).

I am using the same markings (and assumptions – for example, lifetime earnings is 1 for each person, and everyone dies in their old age etc.) as Simonovits, supplemented by three others:

*G*: number of children within the population,

*A*: number of active persons within the population,

*O*: number of the old people (pensioners) within the population,

 $c_L$ : active age consumption of childless persons,

 $d_i$ : old age consumption of childless persons,

 $c_H$ : active age consumption of persons with children,

 $d_{H}$ : old age consumption of persons with children,

*f*: percentage of persons with children within the population,

*n*: number of children per one parent in case of persons with children,

φ: the consumption of the child as a percentage of the adult's consumption,

 $\theta$ : special tax on childlessness,

 $\tau$ : pension contribution,

*s*<sub>*i*</sub>: pension savings of childless persons,

 $b_i$ : state pension of childless persons.

#### INTERESTING CASES DEMONSTRATED BY USING THE TOOLS OF SIMONOVITS

What is actually happening in today's system?

Initial values of the parameters in *Table 1*:  $G_1 = A_1 = O_1$ .

Tax on childlessness is  $\theta$ , which is – in contrast with the statement of Simonovits – much lower than the value  $\frac{\varphi}{2+\varphi}$  belonging to the stable population, ensuring equilibrium. I will mark the difference of the two with p, because it represents the extra consumption of childless persons. I.e.  $\theta = \frac{\varphi}{2+\varphi} - p$ , and I will consider it constant. I will determine the initial pension contribution ( $\tau_1$ ) so that optimality is achieved for childless persons, that is, their retired and old age consumption are identical. As for them  $c_L^1 = 1 - \theta - \tau_1$  and we want that  $d_L^1 = \tau_1$  also equals  $c_L^1$ , therefore

$$\tau_1 = \frac{1-\theta}{2} = \frac{1-\frac{\theta}{2+\phi}+p}{2} = \frac{1}{2+\phi} + \frac{p}{2}.$$

Table 1

Period	G	A	0	n	<b>c</b> ,	d_	С,,	d <sub>H</sub>	<b>s</b> ,	<b>b</b> _
1	G <sub>1</sub> =	A <sub>1</sub> =	0,	$n_1 = 1/f$	$C_L^{-1}$	$d_L^1 = \tau$	$C_{H}^{1}$	$ au_1$	0	0
2	$G_2 < G_1$	$A_2 = G_1 = A_1$	$O_2 = A_1 = O_1$	N <sub>2</sub> < N <sub>1</sub>	$C_{L}^{2} = C_{L}^{1}$	$d_{L}^{2} < d_{L}^{1}$	$C_{H}^{2} > C_{H}^{1}$	$\tau_2 = \tau_1$	0	0
3	$G_{3} < G_{2}$	$A_3 = G_2 < A_2$	$O_3 = A_2 < O_2$	П <sub>3</sub> <П <sub>2</sub>	$C_{L}^{3} = C_{L}^{2}$	$d_{L}^{3} < d_{L}^{2}$	$C_{H}^{3} > C_{H}^{2}$	$\tau_3 = \tau_2$	0	0
4	$G_{4} < G_{3}$	$A_4 = G_3 < A_3$	$O_4 = A_3 < O_2$	N <sub>4</sub> < N <sub>3</sub>	$C_{L}^{4} = C_{L}^{3}$	$d_{L}^{4} < d_{L}^{3}$	$C_{H}^{4} > C_{H}^{3}$	$\tau_4 = \tau_3$	0	0

#### **CASH FLOWS IN TODAY'S PENSION SYSTEM**

Source: edited by the author

Therefore, as they save p per capita by not raising rearing, this can de divided equally between the active and old age consumption of childless persons. Therefore, their consumption will be higher than it would be in equilibrium, when the inequality between those with children and those without children is equalised by the tax on childlessness, and when the total costs of child-rearing are spread out between active people, whether they have children or not. I interpret this in my article by saying that the society drains money from investment into children, and spends it on consumption. I did not mention this in my original article, but I would like to note here that this is a bad strategy for two reasons: firstly, because this way it is not ensured there is an adequate number of active people who will later take care of my pension, and secondly, because we will get used to a higher consumption level in active age compared with the equilibrium - (we quasi raise our consumption reference point) which we would like to achieve in our old age, too.

Therefore, due to the deficiency in p the consumption of persons with children will be lower than that of childless persons, as follows:

$$c_{H}^{1} = 1 - \frac{\varphi n_{1}}{2 + \varphi} - \tau + \theta \frac{1 - f}{f} = 1 - \theta - \tau$$
$$- \left(\frac{\varphi n_{1}}{2 + \varphi} - \frac{\theta}{f}\right).$$

I.e. the deficiency in consumption of persons with children compared with that of childless persons

$$\frac{\varphi n_1}{2+\varphi} - \frac{\theta}{f} = n_1 \times \frac{\varphi}{2+\varphi} - \frac{1}{f} \times \left(\frac{\varphi}{2+\varphi} - p\right)$$
$$= \left(n_1 - \frac{1}{f}\right) \times \frac{\varphi}{2+\varphi} + \frac{1}{f} \times p.$$

It is positive, as in case of stationary population  $n_1 - \frac{l}{f} = 0$ , so then deficiency in consumption is  $\frac{l}{f} \times p$ . By comparison, in the equation of the consumption of persons with children only one element will change,  $n_{\rm c}$  (as this is the only parameter controlled by persons with children), in a way that it continuously decreases, that is, the active age consumption of persons with children grows impressively as the number of children decreases. As - following Simonovits - the income and pension contribution of persons with children is the same as those of childless persons, the pension of those with children will be of the same level as well, that is, in their case optimality will not be achieved they consume more in their old age than in their young age. Nevertheless, this can be questioned, of course. Actually, we should assume that the income of persons with children is also lower than that of childless persons, because they must spend part of their time raising children - a part increasing in proportion to the number of children due to which they can do less work, so their income will be lower. For this reason, their active age consumption will be even less than calculated previously, and their old age consumption will be also lower than that of childless persons. We will not model this here.

So we will stick to the assumption that persons with children have the same income, but their active age consumption is lower than that of childless persons, so those with children decide to raise fewer and fewer children from period to period, so the following will be true:  $n_1 > n_2 > n_3 \dots$ 

Although with this their active age consumption grows from period to period, the number of children will decrease at an accelerating rate from period to period:  $G_2 = A_2 fn_2$ ,  $G_3 = A_3 fn_3 = A_2 f^2 n_2 n_3 \dots$ 

However, if we assume that pension contribution is unchanged, then pension (which is still identical for persons with and without children) will also decrease more and more rapidly, as the distributable contribution decreases as the number of children decreases, while the number of elderly people follows this decrease after some delay. The entire process will reach an equilibrium when from the level necessary for the natural replacement the number of children decreases significantly to the level where this reduced family allowance can also ensure that persons with children reach the level of the active age consumption of childless persons. Then, the number of children stabilises, and the low pension (lower than the pension contribution) stabilises as well.

The system can protect itself against this in only one way: increasing the contribution from period to period, that is:  $\tau_1 < \tau_2 < \tau_3$ .... If this happens, it can be achieved that retired age consumption will not be lower than the active age consumption (of childless persons), but this active age consumption itself will also decrease, although it will be still higher than that of persons with children. The increasingly high pension contribution will, however, encourage even more those with children to have fewer and fewer children, therefore, at this point the number of children will be reduced at the same rate as before, from period to period, just at an even higher pace.

Of course, as a solution Simonovits suggested that we should determine  $\theta$  in a way that it compensates all the expenses associated with child-rearing. When calculating in his writing how much  $\theta$  this would be, after stating that: "At this stage we model the pension system valid in Hungary at the moment", that can be easily interpreted in a way that he thinks that the full reimbursement of the expenses of childrearing is already achieved today in Hungary, and the author does not even try later to dispel the appearance of this. However, not at all, we are a really long way from that. What is more, the 100 percent reimbursement of expenses can only be achieved in a theoretical model like this.

So here is what I am saying.

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## What would happen in the system that I recommend?

The values of the initial period will be the same as before: i.e. the number of children for the stationary population, and a tax on childlessness, which does not cover all the costs of child-rearing. It is the same as it was before:  $\theta = \frac{\varphi}{2+\varphi} - p$ . In my theory, pension contribution is the repayment of child-rearing costs, and that is obvious in the model, so pension contribution is also unambiguous in my model (and that is why it is constant from period to period):  $\tau = \frac{\varphi}{2+\varphi}$ .<sup>1</sup> This is, however, distributed between persons with children and persons without children as pension according to the child-rearing efforts.

Let's look at the first period. We assume that at this time and before this time population was just stationary, that is, the total number of children corresponded to the number of active persons. The expenses associated with  $A_1$  number of active persons was  $A_1 \times \frac{\varphi}{2+\varphi}$  at the time, of which amount the percentage of childless persons was the tax on childlessness (which can actually be interpreted as a uniform tax applicable to everyone – only the formula has to be rearranged a little bit for this), the total value of which is

$$A_0 \times (1-f) \times \left(\frac{\varphi}{2+\varphi} - p\right).$$

The rest is the contribution of persons with children. As now  $A_0 = O_1$ , of this amount  $\frac{\varphi}{2+\varphi} - p$  "childless pension" is received by one pensioner of the first period, to use the term of Simonovits. As in their active age childless persons did not use up p (or half of it) which they did not pay for child-rearing, they put it aside  $(s_L)$ , and furthermore, they also save the amount by which pension contribution is now reduced. Their consumption in their active age is

$$\begin{split} & c_{\rm L}^0 = 1 - \theta - \tau - s_{\rm L} = 1 - \left(\frac{\varphi}{2 + \varphi} - p\right) - \frac{\varphi}{2 + \varphi} - s_{\rm L} \\ &= \frac{1}{2 + \varphi} \;, \end{split}$$

which allows us to determine how much they put aside as pension savings:

$$\frac{1-\varphi}{2+\varphi}+p=s_{\rm L}.$$

For this reason, their old age consumption  $(s_L + b_L)$  will be the same amount as their young age consumption:  $\frac{1}{2+\varphi}$ , so optimality is achieved.

Active age consumption of persons with children was

$$c_{\rm H}^{0} = 1 - \tau - \frac{\varphi n_0}{2 + \varphi} + \theta \frac{1 - f}{f} \text{ of,}$$

which

$$\frac{\varphi n_0}{2+\varphi} - \theta \, \frac{1-f}{f}$$

was their child-rearing contribution. They have to get back this amount in the form of pension. As a verification, the following relationship should be satisfied: the contribution of persons without children + persons with children = the repayment of adult children, that is:

$$\begin{aligned} A_0 \times (1-f) \times \left(\frac{\varphi}{2+\varphi} - p\right) + A_0 \times f \times \left(\frac{\varphi n_0}{2+\varphi} - \theta \frac{1-f}{f}\right) \\ = A_1 \times \frac{\varphi}{2+\varphi} \end{aligned}$$

By transforming the left side we obtain:

$$A_{0} \times \left[ (1-f) \times \left( \frac{\varphi}{2+\varphi} - p \right) + f \times n_{0} \times \frac{\varphi}{2+\varphi} - \left( \frac{\varphi}{2+\varphi} - p \right) \times (1-f) \right] = A_{0} \times f \times n_{0} \times \frac{\varphi}{2+\varphi}$$

And as here  $A_0 = A_1$ , and  $f \times n_0 = 1$ , it equals the right side.

This pension of persons with children can be converted into another formula:

$$\begin{split} & \frac{\varphi n_0}{2 + \varphi} - \theta \frac{1 - f}{f} = \frac{\varphi n_0}{2 + \varphi} - \frac{\varphi}{2 + \varphi} \frac{1 - f}{f} + \frac{1 - f}{f} \times p \\ & = \frac{\varphi}{2 + \varphi} \times \left( n_0 - \frac{1 - f}{f} \right) + \frac{1 - f}{f} \times p \;. \end{split}$$

And immediately, we can establish that it is not likely to correspond to the active age consumption of persons with children, which is:

$$c_{H}^{0} = 1 - \frac{\varphi n_{0}}{2 + \varphi} - \tau + \theta \frac{1 - f}{f} = 1 - \frac{\varphi n_{0}}{2 + \varphi} - \frac{\varphi}{2 + \varphi} + \left(\frac{\varphi}{2 + \varphi} - p\right) \times \frac{1 - f}{f} = 1 - \frac{\varphi n_{0}}{2 + \varphi} - \frac{\varphi}{2 + \varphi} + \frac{\varphi}{2 + \varphi} \times \frac{1 - f}{f} - \frac{1 - f}{f} \times p = \frac{2 - \varphi \times \left(n_{0} - \frac{1 - f}{f}\right)}{2 + \varphi} - \frac{1 - f}{f} \times p.$$

At the same time, it is clear that the sum of their active and old age consumption is the same as that of childless persons:

$$\begin{split} & \frac{2 - \varphi \times \left(n_0 - \frac{1 - f}{f}\right)}{2 + \varphi} - \frac{1 - f}{f} \times p + \frac{\varphi}{2 + \varphi} \times \left(n_0 - \frac{1 - f}{f}\right) \\ & + \frac{1 - f}{f} \times p = \frac{2}{2 + \varphi}, \end{split}$$

that is, the scenario where money is withdrawn from child-rearing and then spent on consumption does not occur in my theory. With this formula, one of the main requirements of Simonovits, i.e. neutrality is fulfilled in my theory, so persons with children consume the same quantity as childless persons.

It is not certain, however, that optimality is fulfilled, which is another main requirement of Simonovits, i.e. that we consume the same in old age than in active age. But! If we think about it, we do not have any reason to assume that our old age consumption corresponds to the childhood consumption of our children that we financed. Of course, there can be such a case, where the old age consumption of persons with children will be precisely the equilibrium value (and therefore equal to the young age consumption):

$$\frac{\varphi}{2+\varphi} \times \left(n_0 - \frac{1-f}{f}\right) + \frac{1-f}{f} \times p = \frac{1}{2+\varphi}$$

There are several variable parameters here. p is set by the government, and n is set by the families themselves. If we express the previous formula for p, we obtain that value p ensuring optimality is the following:

$$p = \frac{f}{1-f} \times \frac{1-\varphi \times \left(n_0 - \frac{1-f}{f}\right)}{2+\varphi},$$

If p is lower than this, young age consumption will he higher than old age consumption; if higher, then the other way around. So, policy has some freedom of action. A small p otherwise means a high tax on childlessness and a high family allowance. Although by this we derogate from optimality, there is nothing to prevent that persons with children – similarly to childless persons – will also put this young age extra money aside on a savings account for their old age, and thus achieve the smoothing of consumption. Which – if we think about it – is self-evident given that the abstraction of Simonovits that each person with children has the same number of children is certainly not true. This means that persons with children must have a savings account if they have fewer than the average number of children.

Theoretically, the question is more complicated if p is high, so family allowance is not sufficient. At this point, the young age consumption of persons with children will be lower than old age consumption, therefore, the described solution cannot be applied. Then, persons with children – if they are really motivated to smooth consumption between the periods - can choose the appropriate conversion of parameter n. (Here it should be noted that the formula will be even more complicated, as we assume there that point n ensures the replacement of the population, which they will clearly derogate from if the stakeholders "guess" their old age standard of living with this. But actually, based on all this, this more complicated formula is also easily deductible.)

#### Note

<sup>1</sup> The alert reader may have noticed that here  $\varphi$  does not mean have the exact same meaning as defined by Simonovits: so it does not represent the consumption of the child in proportion to his/her parents' consumption, but it means an average child consumption prevailing in the society as a percentage of adult consumption. In my view there is no point in complicating the message by keeping ourselves to the original definition, because the point of the problem is not here.

#### References

SIMONOVITS, A. (2020). Családi pótlék és gyerekszámmal növekvő nyugdíj: optimalitás és semlegesség. (Family allowance and pension dependent on the number of children: optimality and neutrality.) *Pénzügyi Szemle/Public Finance Quarterly*, 2020/1, pp. 31-41, https://doi.org/10.35551/PFQ\_2020\_1\_3