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The Problems Underlying the Pension Scheme and Low Birth Rates Can Only Be Resolved Together – A Complex Proposal for Linking Pensions to Parenting

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Summary

This study provides a brief outline of a pension scheme based on human capital, an idea that stems from understanding that pay-as-you-go (PAYG) pension schemes should be based on the recognition of parenting, as they distribute the yield of investments into human capital. The fact that this is not the case explains the numerous problems inherent the scheme. Similarly to a Ponzi scheme, the promises and options offered by the pension scheme are increasingly divergent: promises are becoming increasingly inflated, while options are diminishing. The system outlined below would resolve these problems. Parenting and the pension scheme are intrinsically interrelated: the former can only be made economically profitable through the latter, as evidenced by the prevailing method applied throughout most of global history, which was only made redundant in modern times.

Journal of Economic Literature (JEL) codes: H55, J11, J18
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Introduction

In Hungary – and generally in the developed parts of the world – the increasing difficulty in sustaining state pay-as-you-go (PAYG) pension schemes (Bajkó et. al., 2015; Berki et al., 2016; Oksanen, 2003; Varga, 2014) and the failure of total fertility rates (TFR), which have been low for several decades, to reproduce the population are among the most serious economic and social problems. Although it is clear that the former correlates with the latter (because the emergence of new generations of contribution payers in adequate numbers, i.e. a significantly higher TFR than the current rate is essential for sustaining the pension scheme, otherwise a balance can only be achieved by a substantial increase in the retirement age – see Németh et al., 2019), many are unaware of a reverse correlation: the essentially flawed state pay-as-you-go pension scheme is (one of) the cause(s) for low fertility (although this aspect has been discussed by several authors, e.g. Mészáros, 2005; Gál, 2003).

The pay-as-you-go pension scheme, introduced by President Roosevelt at the turn of the 1930s and 1940s, and then underpinned in 1958 by Samuelson by an "official ideology" (Samuelson, 1958), is based on flawed theoretical foundations, as I have pointed out in several of my studies (Banyár, 2014a; 2016; 2017; 2019b; 2019c). The essence of the problem with the pay-as-you-go pension scheme is that the benefits of population growth are distributed without regard to the persons who have made the efforts to achieve the results, and hence an adequate level of contribution payment capacity is not encouraged. Due to the incorrect distribution principle (entitlement based on contribution payment history), the asset and liability sides of the system diverge just as in Ponzi schemes (Banyár, 2019a). Moreover, in the absence of awareness of the need for investment into the human capital that forms the basis of the system, the investment falls short of the needs, as manifest in the low TFR.

The need to incorporate the recognition of human capital investment in the system was realised by Pál Demény as early as 1987 (Demény, 1987), although he offered an oversimplified, incomplete solution to the problem. Several authors have shared his approach (see publications of Kovács (ed.), 2012; Giday and Szegő, 2018), and some have attempted to provide a more comprehensive solution (Botos and Botos, 2011; 2012; Botos, 2018; Banyár et al., 2016), but in these attempts a good diagnosis was followed by a theoretically incoherent proposal for a remedy. Below is an outline of a concept for a pension reform that leads the pay-as-you-go pension scheme back to its theoretical foundation, i.e. investment into the human capital. The result is an automatically balanced pension scheme that is sustainable in the long term, fully recognises the efforts of parenting and encourages parenting.[1] The solution is a genuinely unorthodox concept that – based on experience – may initially shock the reader. It comes as no surprise that so far only Czech authors (Hyzl et al., 2005) have put forward a similar proposal, as the logic of the current pension scheme is so deeply ingrained in people's minds that it is difficult to break through these constraints even for those who understand the problem.

In this study, it is argued that parenting should not only be the foundation of the pension scheme, but the reverse correlation also applies: the "economics" of parenting is linked to the pension scheme in multiple ways.

It is also important to note – as a cause for optimism – that in its outstanding the competitiveness programme, the National Bank of Hungary (MNB, 2019) correctly recognised that both the pension scheme reform and a demographic change are of key significance in Hungary's competitiveness, and these two factors are closely related, and so the programme proposes recognition of parenting in the pension scheme. As, however, the above-referenced proposal remains sketchy, the following proposal may be referred to the decision-makers.

A brief proposal for a possible human capital (hc) based pension scheme

I propose a gradual replacement of the current PAYG system with the HC system within the time frame of 15–20 years. This could be implemented by transferring everyone below a given age – e.g. people aged 40–45 – to the HC system, while those aged over 60 would remain in the current PAYG system. People of a transition age would be transferred to a mixed system, depending on the scheme they are closer to, based on their age, i.e. their pension would be determined on the basis of partly the former and partly the new principles.

Principles of the new HC system:

- Pension is based exclusively on the investment of human capital in children (based on the hidden, but unrecognised logic of the PAYG system).
- Accordingly, entitlement is not based on contribution payment, however, payment is mandatory. The reason is that contribution does not constitute the payment side, but the return side of the investment; this is how people repay the costs of their own upbringing. Contribution payment is therefore mandatory for everyone (also for people raising children), but it is limited in time (e.g. for 30 years, preferably for the "best" 30 years, i.e. not from the date of entry to the labour market).
- Parenting efforts are mainly, but not exclusively, made by parents. Based on calculations, in Hungary they currently contribute more than 70%, while the remaining 30% is financed by taxpayers through school education, child care allowance, child care benefits etc.[2]

a) For this reason people with no children would also be entitled to a certain amount of pension in proportion to their tax payments. The amount payable per taxpayer is calculated on the basis of the portion of parenting financed from taxes (30%) and the ratio of taxpayers to children.

b) After the retirement age, childless taxpayers should not be paid significantly less pension than those with children, but would receive the same pension from a significantly higher retirement age.

- Childless people would, however, also receive a pension between the standard retirement age (set for people with children) and the increased one (set for childless people) based on their savings. The scheme also includes a pension savings account to which everybody makes payments from the time of entry to the labour market. On this account money saved due to the absence of parenting is held. When the person reaches the retirement age, he/she does not yet receive a pension from the HC system, but he/she may start withdrawing amounts from the savings account distributed in time until the increased retirement age (or he may save these amounts), i.e. a childless person may also retire when a person with children retires.
- If someone has a child (whether delivered or adopted), such savings are reduced by half, and after the second child they are reduced to zero. In other words, funds are immediately available for people with children for parenting. This also means that having children for them will also be financially neutral when the child is born; the "investment" will not only be recovered at the time of retirement. Young people will therefore be no longer encouraged to not have (or never have) children (currently this option is financially more advantageous for them).

A scheme based on the above principles has the following advantages:

- The state pension scheme will be sustainable (as opposed to the current state scheme), it will provide incentives (i.e. encouragement of human capital investment into children = having children) that support sustainability. (If, nevertheless, no one wants to have children, no problem is encountered because no pension entitlement arises.) In other words, this system implements integration between the asset and liability side of the state pension system, which is currently lacking, as the present system (globally) is incorrect and theoretically flawed in promising pensions detached from possibilities.
- In contrast to the present system, where not having children is clearly financially advantageous (and profoundly unfair to those having children), this system will be neutral in terms of having or not having children, and fairness is applied universally). A childless person cannot exhaust the amounts saved (at the moment a short-sighted approach is applied) because he/she needs to save. For this reason, people having children immediately earn income for parenting from the amount they are no longer required to save on account of not having children.
- Having children will therefore be based on the reasonable economic premise that its cost will ultimately be borne by the child, i.e. the person who has received from society and from his/her parents the transfers which create the human capital he/she possesses and uses, and this amount can generate significantly higher value, primarily to the benefit of the child. In other words, parenting (in a positive case: population growth) will become self-financing.

It is important to emphasise that only this solution provides both an incentive for parenting at an adequate level and the sustainability of the pension scheme, that is, contrary to public opinion, these two matters closely correlate and demand a combined solution.

Brief justification for the proposal

Why is it necessary to link having children with the pension scheme?

It has been clear for some time that, although the two questions seem to be detached because they are related to different stages of human life, they are actually closely related. Overall, there are two major groups of pension schemes:

1) State schemes, also called pay-as-you-go schemes, not capitalised by "physical" capital (this is the prevailing pension scheme in Hungary).

2) Various capitalised schemes (pension funds, retirement funds, occupational pension schemes, capitalised state schemes, as historical Bismarck's scheme).

According to the official ideology of the state scheme, as defined by Samuelson in 1958 (which has been consistently cited approvingly), the yields generated by population growth are distributed among the elderly in the form of a "biological interest", i.e. performance and options directly depend on the number of births. If there are no births, no pensions are paid. This dependence is reversed in capitalised schemes:

capital accumulated for pensions generates a yield only if it is operated by someone, i.e. a new generation of an adequate number (and quality) of people replaces the old one, otherwise capital is depreciated and will not become pension (although this correlation is often disputed).

A major flaw of the state pension scheme is its original assumption of a constant level of births and a constant supply of "biological interest" to distribute. A negligible, minimum cost of parenting is assumed, with practically no obstacles to having children. Today it is clear that neither assumption is true (although these assumptions had been relevant at a given time): the costs of parenting are on the rise, with the availability of effective and cheap, widely applied contraceptives to everybody.

It follows that it is wrong to assume a constant source of distribution and to ignore amounts each member of society contributes to parenting. The above realisation prompts various proposals and solutions for linking parenting and pensions. These proposals can be divided into three main groups:

1) A portion of pension contributions paid by children should be directly distributed back to their parents (Demény, 1987; Giday and Szegő, 2018; proposal contained in point 330 of the MNB, 2019).

2) Parenting should ALSO be considered a contribution payment, entailing pension entitlement (Botos and Botos, 2011; 2012; Werding, 2014; Banyár et al., 2016).

3) Complex relationship between parenting and pensions (Hyzl et al., 2005; Banyár, 2014a; 2016; 2017; 2019b; 2019c).

This study discusses the latter proposal, demonstrating why the other proposals are deficient and, to a certain extent, theoretically flawed.

Who should pay the cost of parenting?

The first question to be reasonably asked is: Who should pay the cost of parenting? Such cost used to be low, and today the situation is no different in extremely poor groups of society and in populations in countries on a similar level of development. Children brought up at such low cost, however, do not receive impulses during their childhood that would render them competent for integration in modern work organisations and for performing useful work. (This is one of the main reasons why migrants from poor countries do not offer a solution to the demographic problems of the West. For correlations between migration and the pension scheme, see Banyár, 2014b.) For such children to become competent, they need to be schooled for a long time and to be exposed to a multitude of diverse – and, of course, costly – impulses. These efforts consume vast amounts of money (and time devoted by parents and teachers, which ultimately also translate into money). Who should pay this vast amount of money? Let us consider the logical options.

Should parents pay?

This has been the case for a long time, logically and unproblematically, as children worked on family farms from an early age, i.e. the parenting investment recovered early. Moreover, when the child took over the family farm from his parents, he repaid the cost of parenting by taking care of the elderly parents. This is the case in many developing countries, which is (also) why there are many children there.

Today the situation is different in developed countries: children do not represent any economic benefits for parents, child labour has been banned for a long time (and family farms no longer exist), but the time and cost of education have significantly increased. The main economic benefit of children – their tax and contribution payment capacity – has become a public good (presumably due to the flawed state pension scheme), i.e. people are not repaid such benefits in proportion to their investment. So why bother becoming a parent? The principle, which has proven to work well for millennia and is still advocated by many today, has clearly become outdated.

Should the state pay?

Financing by the state would seem a logical response to the above problem, i.e. taxpayers should raise the money for the cost of bringing up children. This solution has been partly implemented in many countries, as the state finances education almost everywhere, providing parenting benefits or tax benefits in many countries. Under the current policy of the Hungarian state, the share in financing parenting from public funds in being increased (currently it is approximately 30%). A 100% ratio of state financing, however, is infeasible, taking into account the diversity of individual parenting costs, not to mention the fact that this would require considerable additional funds compared to the current volume of the pension scheme. As an additional problem, it is not clear as to why the costs of parenting should be distributed among taxpayers, that is, why the cost of national demographic reproduction should be ultimately in proportion to the burden sharing capacity of individual taxpayers, as they do not receive the benefits of parenting to such an extent. Beyond doubt, the most important and ultimate beneficiary of parenting, however, is the child, as – in economic terms – the purpose of parenting is the creation of human capital for the owner (i.e. the grown child) to generate vast amounts of income primarily for him-self/herself. It is therefore logical that the cost of parenting should be paid by the grown child.

Paying by the grown child

This is the sole logical response to the problem. Obviously, the child is unable to immediately make repayments. This is only possible when he/she can operate his/her human capital at least on a basic level, i.e. after the completion of education. Therefore the money and time spent on the child is deemed to be a long-term investment made primarily by the parents (or caregivers, whether or not they are the biological parents) and partly by other taxpayers through funding school education, health care etc., including tax transfers and tax benefits provided to parents.

If the child pays for the cost of his/her upbringing (subsequently, when he/she can work and earn income), paying it specifically to those who have made the investment, the problem of parenting not being reasonable on an individual level is resolved by becoming economically reasonable again. Moreover, return on the investment is significantly greater than what the state can provide by increasing benefits in relation to children, i.e. the incentive for parenting would be greater than ever thought possible.

Since the child is able to pay for his/her upbringing only at a later stage in life, when his/her parents have already been retired, practically the only option is repayment in the form of a pension, i.e. the means of the child's repayment of the costs of his/her upbringing would be the payment of a pension contribution, while the pension would constitute the return on the investment of human capital (return of capital and its yields) to the parents (and taxpayers).

Pensions and demography – inseparably correlated

The above method would provide a common solution to the problem of both demography (low birth rates) and pensions (increasing supported-supporter ratio). In essence, relative to the current situation, a vast amount of new funds would be invested in parenting, where a portion of the income of people with no children would be rechannelled to their pensions (through a savings plan) and the pension funds thereby released would be provided to those with children. Since, however, people with children would not be required to participate in the savings plan (because they would also receive a pension through their children), this money would be immediately available to them when they have children, i.e. childless people would no longer be clearly better off than those with children. (The objective announced by the Prime Minister of Hungary in the middle of 2019, namely that people with children should be better off than people without children, could be achieved by the means described above.)

It is also important to emphasise that in the described solution, parenting and the pension scheme are not linked by some kind of a magic trick, as the two closely correlate, and essentially the two problems can only be resolved together.

Let us examine the reasons for this. Let us assume that it is possible to find independent solutions for the pension scheme and for parenting, as almost everybody believes to be the case today. This would imply the following.

A solution to the pension problem independently from parenting worsens the demographic situation

If the state pension scheme does not reward parenting, the current demographic problem will persist, with increasing decline in the number of children and a deteriorating ratio of supported to supporters. It is therefore necessary to incrementally increase the retirement age, not only by "natural means", i.e. through increasing life expectancy, but also by maintaining the expected value of the time spent in retirement at a constant level. In other words, life expectancy spent in retirement will constantly decline. The spontaneous reaction of stakeholders to this is the spontaneous partial capitalisation of the pension scheme, which they are already encouraged to do by life insurance companies and pension funds. This means that they save an increasing part of their income instead of spending it on consumption. As the most expedient solution, they will supplement such funds with those allocated to their largest unproductive expenditure: parenting, i.e. due to savings, they will increasingly reduce their parenting efforts, as the cost of parenting will continue to increase without any economic benefits (Banyár, 2019a).

The situation is no better if recapitalisation is not implemented spontaneously, but on a mandatory basis, through a recapitalised state scheme, as shown by the attempts made in Hungary between 1998 and 2011. In other words, the (partial) recapitalisation of the pension scheme further deteriorates demography.

The state pension scheme clearly depends on parenting

Let us assume that the state increases support to parenting, and eventually the state covers all the parenting expenditures (in my opinion this is impossible in practice). In this case children can de facto be considered a public good, as their upbringing will actually become the outcome of public effort. The question arises as to whether the current state pension scheme can operate as it is, on the (currently false) premise that the child is a public good?

Clearly it could not operate in its current form because the accumulated pension contribution would only match the number of births and the level of children's upbringing. These issues will continue to be unrelated to each other or to the pension contributions of the working-age population paid during working age. In other words, the pension determination principle of the state pension scheme – assuming the dependence of pensions on the level pension contributions – remains incorrect. As a minimum, a rule would need to be adopted about the distribution of the actually paid-up pension contributions (depending on demography) at a certain ratio (e.g. in proportion to contributions). Thus the current pension scheme should be reformed to allow for the aggregate effect of parenting.

The manner of linking the two is crucial. Parenting is NOT contribution payment

If, however, the two areas are devised in a contingent structure, i.e. pensions depend on parenting efforts, it may seem that only individual researching creativity poses an obstacle to linking of the two. The options mentioned at the beginning of this study may arise, like transferring part of the pension contribution to parents or rewarding parenting efforts by recognised them also as contribution payments.

The problem with these concepts is that they consider the state pension scheme as appropriate in the sense that contribution payment creates the entitlement to a pension. This, however, is a conceptual flaw in the current state pension scheme, as contribution payments presently have nothing to do with the amount of pensions payable to future pensioners. The correct approach should be for contribution payment to be the repayment of parenting costs everybody owes to their parents and other taxpayers of society, for which nothing is due in exchange. In other words, contribution payment is not a payment but a repayment in this system, and due to false analogies (it has been compared to funded pension schemes operated by insurers), this fact has not been realised so far. For this reason the severe asset-liability matching problem encountered in the state pension scheme would not be resolved, were this principle maintained unchanged, as put forward by the cited proposals.

Summary and differences compared to other proposals

In summary, the above-described pension scheme simultaneously manages the problems of state pension schemes in developed countries and the demographic problems of these countries, and also implies that the two problems are in fact closely correlated. In terms of the pension scheme:

- It matches the promises held out ("liabilities") and the assets available in the scheme, and thereby.
- Eliminates implicit government debt underlying the pension scheme (which essentially measures the unsecured promises inherent in the scheme and amounting to approximately 240% of the GDP in Hungary).
- The system will be balanced at all times independently of demographic changes, regardless of whether there are more or less children.
- As an important advantage, it does not cost anything; in fact, savings can be achieved in contrast to the current situation, as the redefinition of entitlements is based on an undisputable philosophy.

In terms of demography:

- It eliminates the largest financial counter-incentive to having children, i.e. the bad pension scheme under the current scheme.
- It thereby provides a very strong incentive for parenting over the current situation, because in economic terms it becomes an entirely recoverable investment, as opposed to the current situation, when parenting is clearly luxury consumption (from an individual point of view).

- It does so by not costing anything at all; based on a smart policy, parenting will become economically self-financing; the ultimate financer will be the grown up child himself/herself. This is actually the way to achieve the objective announced by the Prime Minister of Hungary, namely that people bringing up children should gain a more advantageous position than those with no children.

There are other simultaneous proposals based on Pál Demény's idea explained in 1987. In summary, these proposals could be termed as "direct transfer solutions", as they essentially aim to enhance the economic appeal of parenting by providing some of the child's contributions (taxes) to the parent after his/her retirement. In principle these proposals are correct, as they are based – similarly to my proposal – on the correct principle that parenting is considered an investment in human capital, the yields of which (or at least a portion thereof) should be returned to those who produce it, i.e. (mainly) to the parents. These proposals, however, have major disadvantages:

- In contrast to the above-described HC scheme, they only promise a partial repayment of parenting efforts.
- Inevitably, direct transfer solutions can only have a support function alongside the existing PAYG pension scheme; they are unable to replace it. This being the case, however,

a) They legitimise a pension scheme built on a flawed principle,

b) They are vulnerable because they are not based on a correct theory. They give the impression that a "good" pension scheme (i.e. the PAYG scheme) is "hacked" by incompatible, random factors (parenting), and therefore major political efforts may be expected to lobby for the withdrawal of this solution if adopted. For this reason its long-term incentivising power will be lost.

- As, in contrast to the HC proposal, they maintain a deficient system, substantial additional budgetary resources are required.
- Again, in contrast to the HC proposal, which aims to immediately change the economic incentive for people in the child-bearing age, direct transfer proposals aim at securing welfare for the current pensioners, i.e. they highly indirectly enhance the motivation to have children (and this is immediately undermined by the legitimate concern about the long-term sustainability of such a scheme).

The above disadvantages also characterise the reform proposals aimed at linking parenting and the pension scheme, which are, however, inconsistent (Botos and Botos, 2011; 2012; Werding, 2014; Banyár et al., 2016).

Notes

- 1. In this regard there are sceptics who claim that although the state's encouragement of having children is not without effect, its impact is moderate. See Sági et al., 2017 and Sági et al., 2018.
- 2. Verbal information provided by Iván Róbert Gál as an informal summary of his thorough research in the field.

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