

Ádám, Zoltán; Simonovits, András

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## From democratic to authoritarian populism: Comparing pre- and post-2010 Hungarian pension policies

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MŰHELYTANULMÁNYOK

DISCUSSION PAPERS

**MT-DP – 2017/31**

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Comparing pre- and post-2010 Hungarian  
pension policies**

ZOLTÁN ÁDÁM – ANDRÁS SIMONOVITS

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From democratic to authoritarian populism:  
Comparing pre- and post-2010 Hungarian pension policies

Authors:

Zoltán Ádám  
Corvinus University of Budapest, Faculty of Economics,  
Department of Comparative and Institutional Economics  
E-mail: zoltan.adam@uni-corvinus.hu

András Simonovits  
research advisor  
Institute of Economics, Research Centre for Economic and Regional Studies  
Hungarian Academy of Sciences,  
also Mathematical Institute of Budapest University of Technology  
E-mail: simonovits.andras@krtk.mta.hu

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# **From democratic to authoritarian populism: Comparing pre- and post-2010 Hungarian pension policies**

Zoltán Ádám - András Simonovits

## Abstract

In this paper, we analyze Hungarian pension policies between 1998 and 2017, comparing the pre- and post-2010 periods. Before 2010, Hungary was a liberal democracy dominated by populist economic policies. We call this the period of democratic populism. After 2010, with center-right but illiberal Fidesz having gained a two-third supermajority of parliamentary seats and altered the entire constitutional system, a period of authoritarian populism began. Based on policy preferences and ideological orientation, one would expect the pension system to have become more stable, predictable and financially more sustainable but probably less redistributive after 2010. Yet, this is not exactly what we found by examining empirical data: whereas the transparent defined contribution element had been eliminated with the nationalization of mandatory private pension funds and redistribution toward the poor has indeed been curtailed, the pension system has hardly become more stable and sustainable after 2010. Our analyses are based on five dimensions of pension policies: (a) Creating and then renationalizing of the mandatory private pillar. (b) The tension between raising normal retirement age and stagnating effective retirement age (lack of strong benefit reduction for early retirement until 2009, introduction of Females40, and elimination of early retirement after 2010). (c) The chaotic practice of pension indexation during the whole period. (d) The polarizing impact of the elimination of progression in calculating benefits and progressivity in the personal income tax. (e) The arbitrary rise and reduction of contribution rates.

**Keywords:** public pension systems, private pension systems, contributive systems, redistribution, pension policy, populism

**JEL numbers:** H55, H63

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# **Demokratikustól az autoriter populizmusig: A 2010 előtti és utáni magyar nyugdíjpolitika összehasonlítása**

Ádám Zoltán - Simonovits András

## Összefoglaló

Ebben a dolgozatban az 1998 és 2017 közötti évek magyar nyugdíjpolitikáját elemezzük összehasonlítva a 2010 előtti és utáni időszakot. 2010 előtt Magyarország liberális demokrácia volt, amelyet populista gazdaságpolitika jellemezett. Ezt az időszakot demokratikus populizmusnak nevezzük. 2010 után a jobbközép, de illiberális Fidesz kétharmados alkotmányozó többséget szerzett és megváltoztatta az egész alkotmányos rendet: elkezdődött az autoriter populizmus korszaka. Politikai preferenciák és ideológiai irányultság alapján azt várhatjuk, hogy a nyugdíjrendszer stabilabb, jobban előrejelezhető és fenntartható és kevésbé újraelosztó lesz, mint 2010 előtt. Mégsem ezt mutatja a tapasztalat. Miközben a kötelező magánnyugdíjrendszer államosítása eltörölte az átlátható járulékkal meghatározott elemet a rendszerből, és a szegények felé irányuló újraelosztás gyengült, a nyugdíjrendszer aligha lett stabilabb és fenntarthatóbb, mint korábban. Elemzésünk a nyugdíjpolitika öt dimenzióján alapul: 1. A kötelező magánpillér létrehozása és újraállamosítása. 2. Az általános nyugdíjkorhatár emelése és a tényleges átlagos korhatár stagnálása (2009-ig az előrehozott nyugdíj kevés levonást tartalmazott, 2011 óta a Nők40 bevezetése és az előrehozott nyugdíj megszüntetése). 3. A nyugdíjindexálás kaotikus rendszere az egész időszakra jellemző volt. 4. A nyugdíjdegresszió és az szja-progresszió alakulása. 5. A járulékkulcsok önkényes emelése és csökkentése.

JEL: H55, H63

Tárgyszavak: tb-nyugdíjrendszer, magánnyugdíjrendszer, arányos tb-nyugdíj, újraelosztás, nyugdíjpolitika, populizmus

## 1. Introduction

A great number of papers have been published on the Hungarian pension system, mostly on its structural reform (partial privatization) started in 1998 (e.g. Simonovits, 1999; Augusztinovics, Gál, Matits, Máté, Simonovits, Stahl, 2002; Gál, Iwasaki and Széman, eds. 2008; Guardiancich, 2008 and Holtzer, ed., 2010). But the post-2010 developments have not received sufficient attention and that little investigation was also concentrated on the renationalization of the mandatory private pillar (e.g. Simonovits, 2011, Szikra 2014). The present paper discusses Hungarian pension policies between 1998 and 2017 in a particular political economy context (see also Szikra and Kiss, 2017): Our primary interest is to analyze and interpret the difference between the periods of liberal and the illiberal democracies in Hungary (cf. Kornai, 2015) in terms of pension policies.

As we shall see in Section 3, economic populism has a long standing tradition in post-1989 Hungary (and in fact even before cf. Kornai [1992]). Clientele building and courting large sections of the electorate by fiscal means was not invented by Fidesz after 2010. Yet, we argue that the post-2010 period did bring about the invention of a new political regime: authoritarian populism, in which not only public resources are centralized but also private ones are politically controlled; and not only clienteles are built but also autonomies of non-governmental actors are eliminated (Magyar 2016, Magyar & Vásárhelyi 2017). Hence we pit authoritarian and democratic populisms against each other, and seek to demonstrate the difference between the two by presenting the respective pension policies of each.

Pension policies are an ideal subject of political economy analysis as they concern a large part of the electorate, whereas pension systems are delicate long-term constructions, whose reforms need a lot of political and professional ingenuity (Barr and Diamond, 2008). Moreover, in most of the developed world, and especially in the EU11 countries<sup>1</sup>, including Hungary, the future of the pension system is rather dark (Domonkos and Simonovits, 2016/2017). The raising of the normal retirement age can dampen the impact of rising life time expectancy, but low fertility rates and excessive pension hikes, especially for previous high earners, undermine sustainability. According to various studies, the balance of the Hungarian pension system will turn into negative or very negative in the coming decades, especially from 2035 (e.g. Bajkó, Maknics, Tóth and Vékás, 2015 and Freudenberg, Berki and Reiff, 2016; respectively), while others assert sustainability (e.g. Dekkers, Desmet,

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<sup>1</sup> EU11 is the group of ex-communist EU Member States: Bulgaria, Croatia, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia and Slovenia.

Rézmovits, Sundberg and Tóth, 2015). In any case, rising emigration from Hungary and the lack of significant immigration into Hungary will place a heavy burden on the Hungarian pension system in the foreseeable future, forcing policy makers to react upon it.

In what specific ways the policy makers react, though, is the subject of this paper. By analyzing pre- and post-2010 pension policies, we hope to gain an insights to the operation of what we call democratic and authoritarian populisms. This way, our paper also contributes to the burgeoning literature on contemporary populism (cf. Mudde 2004, Finchelstein 2014, Kriesi and Pappas 2015, Pirro 2015, Müller 2016, Brubaker 2017, Mudde and Kaltwasser 2017), and may help situate its subject into empirically examined socioeconomic trends.

The structure of the paper is as follows. In Section 2, we present our argument and hypothesis. In Section 3, we outline the pension policies of the period of what we call democratic populism from the introduction of the three-pillar pension system in 1998 until the two-third electoral victory of Fidesz in 2010. In Section 4 we discuss the pension policies of authoritarian populism: the period characterized by the elimination of checks and balances on government authority and the establishment of a manifestly illiberal political regime after 2010. Section 5 provides a comparison of results for the pre- and post-2010 periods and draws conclusions. In addition, an Appendix presents the indexation of pensions between 1993 and 2015.

## **2. Our argument and hypotheses**

In 1998, Hungary experienced the replacement of a democratically elected government by another one already for the second time. Hence, it appeared that democracy as a form of governance had been institutionalized and Hungary was set to join the NATO and the EU soon. (In fact, Hungary became a NATO member in 1999 and an EU member in 2004.) Yet, at the same time, a comparatively low ratio of economic activity among the labor force and a pattern of dual economy development exposed economic policy making to *democratic populism*. By this we mean economic policies sheltering large sections of the population from market forces, typically associated with large social transfers for pensioners and other politically influential, economically inactive or vulnerable parts of society. Such a political pattern is often associated with clientele building as public resources tend to be distributed along political affiliations. Democratic populism also creates political cycles in fiscal spending as budgetary transfers—considered to be primary means to ensure political support—intensify before elections.

Hence, fiscal sustainability is typically a key issue of democratic populism, fitting the pattern of unsustainable macroeconomic cycles, described by Dornbusch and Edwards (1989) and Sachs (1989) decades ago in context of post-authoritarian Latin American economic policymaking. Nevertheless, as democratic populists are serving the demand of their core electorate, they can hardly afford to cut social transfers, including pensions, politically. One of their potential responses, typically advocated by international financial institutions and multilateral bodies, including the IMF and the World Bank, is the reform of public services, including pensions. The Hungarian pension reform of 1997-1998 was a typical case in point, generating high hopes and delivering poor results in terms of sustainability (Simonovits 1999, 2011 and Guardiancich 2008).

Another potential response to the fiscal trap of democratic populism is authoritarian populism. This can be introduced with or without structural reforms: the point is to constrain effective political choice so that electoral opposition to socially costly policy measures can be paralyzed. This is the typical political response of post-democratic governance in crisis-ridden societies, in which transaction costs of democratic political exchange become too high to bear in face of diminished expected social utilities. Hence, authoritarian populism is fundamentally different from democratic populism as it serves popular political needs not by dispersed fiscal transfers but by coercing political preferences, centralizing political control over all societal resources, organizing key social actors into government sponsored clienteles, and redistributing resources to their specific needs (cf. Ádám 2017).

In our assessment, this is what happened in post-2010 Hungary, when center-right Fidesz obtained a sufficient parliamentary majority to alter all legislation and subsequently dismantled the system of liberal democracy and the rule of law, established in 1989-1990 (Tóth 2011, Bozóki 2015, Kornai 2015, Vörös 2015, Halmai 2017). The scope of authoritarian populism in context of the post-crisis EU and global economy is of course much broader than Hungary: from Poland to the United States, from Venezuela to Turkey, from Austria, France and the Netherlands to Indonesia and the Philippines, authoritarian populism is an increasingly appealing political option as it promises simple solutions to complex problems and grave uncertainties (cf. Müller 2016).



However, making this argument substantiated, we need to demonstrate the difference of actual policies employed by democratic and authoritarian populists. Hence, our ambition in this paper is to show how much different pension policies in pre- and post-2010 Hungary have been. Our analysis concentrates on five dimensions of the Hungarian pension system: (a) The creation and subsequent nationalization of the mandatory private pillar (1998-2011); (b) The tension between raising normal retirement age and stagnating effective retirement age (i.e. the lack of strong reduction of benefits for early retirement until 2009, and Females40 and of the elimination of early retirement after 2010); (c) The erratic practice of pension indexation during the entire period together with the introduction and the elimination of the 13<sup>th</sup> month pensions in 2002-2009; (d) Income redistribution through pensions; and (e) The arbitrary rise and reduction of contribution rates.

In our hypotheses, we expect pre-2010 pension policies (i) to enhance (or at least not to constrain) the scope of individual choice, (ii) to struggle with raising effective retirement age and punishing early retirement, (iii) to index pensions according to electoral needs, (iv) to redistribute income through pensions to the benefit of the relatively poor, and (v) to decrease contribution rates to the detriment of fiscal sustainability. In turn, we expect post-2010 pension policies (i) to constrain individual choice, (ii) raising effective retirement age and punishing early retirement with little political problem if needed, (iii) to provide a degree of stability and predictability in indexation, (iv) not to use pensions to redistribute income to the poor, and (v) not to have much political problems with decreasing contribution rates to obfuscate the public.

### **3. The period of democratic populism: Pension policies in 1998–2010**

Between 1989 and 2001, Hungary was a frontrunner of economic transition. It was among the first post-communist countries to liberalize foreign trade, invite foreign direct investment, privatize strategic industries, and to harden the soft budget constraint of the corporate sector (Kornai 1995, Kornai 1996a, EBRD 1999). It was also the first country in Central and Eastern Europe (CEE) in 1997-1998 to create a three-pillar pension system, following the advice of the World Bank (1994).

The 1997-1998 pension reform was introduced after the success of the macro-stabilization of 1995-1996 (Kornai 1996b). It was a swift political process by the center-left coalition of 1994-1998, ignoring most criticism and opposition, both political and professional. The reform was pushed through parliament in 1997 and was introduced in 1998, a few months before the general elections. Although it was a politically popular piece of legislation, the center-right coalition of 1998-2002 never subscribed to it, and started undermining it politically as soon as it assumed office. (We shall discuss partial privatization in Section 3.1.)

In line with the assumptions of democratic populism, increased pre-election spending could be detected before each Hungarian general election from 1994 to 2006. In 2000-2001, the center-right coalition adopted an expansionary fiscal policy stance that included over-indexed rise of pensions, cheap loans for the corporate sector, a hike of the minimum wage, a substantial rise in the salary of public officials, as well as government-sponsored housing finance schemes. The center-left, in opposition between 1998 and 2002, was competing with this policy stance at the 2002 elections, offering even more wage hikes in the public sector, the continuation of preferential housing finance schemes, and—politically very importantly—the introduction of a 13<sup>th</sup> month pension across the board, for all pensioners, to be phased-in four years from 2003 to 2006. The latter was equal to an extra 8.3% rise in pensions in four years, to which center-right Fidesz reacted in the 2006 election campaign by promising the introduction of a 14<sup>th</sup> month pension.

In sum, Hungarian economic policies left the path of sustainability in 2000-2001 they reached after the 1995-1996 stabilization, and did not return to it until 2006-2008. Both the general government and the current account balances heavily deteriorated, creating a general government deficit of 9% in 2006 and a similar current account deficit in the same year. Economic growth was based on growing indebtedness and was hence not sustainable (Oblath 2016). Although entering of the European Union (EU) in 2004 did not impose any discipline on Hungarian economic policies; by 2006, both the EU and the financial markets demanded a shift in economic policy making so that financial stability and sustainability could be restored. In consequence, immediately after its electoral victory in 2006, the center-left coalition had to adopt a restrictive fiscal policy stance. Some social transfers were cut and public sector salaries were frozen, but the government did not dare to touch pensions. This was only a temporarily available policy option, though. The 2008-2009 global financial crisis hit hard Hungary because of its vulnerable external financing position, and the government was forced

to reinforce stabilization efforts while applying for official financing from the EU, the World Bank and the IMF as soon as November 2008. One of the first casualties was the 13<sup>th</sup> month pension that was eliminated in 2009 along with the cancellation of 13<sup>th</sup> month salaries of public sector employees; both adopted as part of the government's fiscal stabilization efforts, heavily undermining the support of the center left among their core electorate. (As an afterthought, the Bajnai government introduced a pension bonus, which would pay an extra benefit to the pensioners if the GDP growth rate falls between 3.5 and 7.5% in a given year. It is characteristic of the poor execution that the less the actual GDP growth rate surpasses the lower threshold, the more differentiated the bonus.) Although the recovery was on the way in 2010, nothing could prevent center-right Fidesz gaining a two-third supermajority at the 2010 election with which they could alter the entire constitutional system. This is what indeed happened, as we will discuss it in Section 4.

### *3.1. Partial privatization*

The Hungarian mandatory private pension system was created in 1997-1998, following the advice of the World Bank (1994). This was a classic three-pillar system advocated by the World Bank and other experts globally during the privatization frenzy of the 1990s. The three pillars were as follows: (i) the traditional pay-as-you go pillar, operated by the government-run social security system, (ii) the mandatory private pillar, introduced in 1998, and (iii) a voluntary private pillar that had actually existed since 1993 but remained small and structurally insignificant, and thus we shall neglect it in our discussion.

Hence, effectively, until 1998, Hungary had a purely unfunded (monopillar) public pension system. This was a strongly progressive pension system until 1998 (Augusztinovics and Martos, 1996), especially if we take into account that the personal income tax was also quite progressive. The impact of the number of years was and is still also progressive. Importantly, in context of the 1997-1998 pension reform, the remaining public pillar was also set to be transformed into a defined contribution (DC) system, in which the formerly loose link between contributions and benefits are to be transformed into a strong one, but actual benefits were to be still paid out from current revenues. In contrast to, for example, Poland, the Hungarian pension reform did not contain the introduction of the notional defined benefits (NDC) system. Yet, the government-run pay-as-you-go system remained the dominant pillar

of the entire pension system, having an about 3 times higher contribution rate than the private pillar's.

At the start, about half of the workers entered voluntarily the mixed system; by 2010, another quarter of the workers (those entering the labor force between 1998 and 2010) had to join but a large share of them would have also joined voluntarily. Since the cost of transition to this mixed system was financed from public debt, the budget deficit was much higher and the government debt rose much faster than it would have been without this structural reform (cf. Drahekoupil and Domonkos, 2012; Casey, 2014 and Banyár, 2017). Though it is difficult to separate the impact of various public policies on debt dynamics, the government debt ratio rose from 52% (at the end of 2001) to 66% (at the end of 2007) to continue to 80% (at the end of 2010). The third figure already contains the steep fall of the real exchange rate and increased foreign exchange reserves in context of the EU-IMF financing package obtained in November 2008 (see below).

### *3.2. Normal vs. effective retirement age*

A key issue of any pension system is the dependence of the annual benefit on the retirement age. A sensible system (like the NDC) emulates a private saving scheme: the longer one accumulates her annual contribution, the more virtual capital is accumulated and the fewer parts it should be divided into (because she lives fewer inactive years). Traditionally, in all communist countries, the normal retirement rate was relatively low: 55 for women and 60 for man. (True, the life expectancy was also low, especially for males, mainly due to high mortality between 20 and 40.)

When full employment collapsed during the transition and open inflation appeared, the outdated pension system had to be modernized. Life expectancy also started to rise. As a natural reaction, in 1996, *normal retirement age* was raised to 62 by 2001 and 2009 for males and females, respectively. Due to exaggerated fear from mass unemployment, however, subsequent governments maintained the possibility to obtain disability pension easily. Furthermore, the benefit reduction for early retirement remained very modest, especially for those who had a relatively long period of contribution (cf. Vanhuysse, 2006 for the whole region). It is small wonder that notwithstanding the rising normal retirement age, the effective retirement age hardly rose.

Another problem appeared with respect to *fragmented* careers (Augusztinovics and Köllő, 2009 and Dekkers et al., 2015). To measure the weak link between the retirement age and the length of contribution, Granseth, Keck, Nagl, Simonovits and Turet al. (2016) used a relatively simple indicator, namely the correlation between retirement age and the length of contributions. This indicator is positive in well-designed pension systems (e.g. Sweden), while it is negative in poorly designed systems (e.g. Hungary).

When the Great Recession arrived in 2008, the center-left Hungarian government sought to strengthen the sustainability of the pension system by raising the normal retirement age from 62 to 65 by 2022, and allow early retirement only with sensible reductions.

Table 1 displays the outcomes for 2006–2010. In 2007, 101% of males of the cohort size retired (50,900/50,300), while in 2008, only 54% (25,700/47,400). The reason was simple: males (and females) wanted to avoid the sudden decrease of 8% in the initial pensions announced for 2008. (This was part of the post-2006 fiscal stabilization efforts that preceded the cancellation of the 13<sup>th</sup> month pension in 2009.)

Table 1. Retirement ages and relative sizes: males and females, 2006–2010

Year	Males		Females	
	Average retirement age (year)	Relative size	Average retirement age (year)	Relative size
2006	59.9	0.638	57.5	0.758
2007	59.7	1.012	57.8	1.028
2008	59.8	0.542	57.3	0.611
2009	59.7	0.727	59.9	0.239
2010	60.2	0.676	60.7	0.198

Source. Fazekas–Varga (2015, p. 262, Table 11.5)

### 3.3. Indexation and extra benefits

In modern economies, public pensions *in progress* are indexed, i.e. each year their nominal values are increased in a prescribed way. There are two pure types of indexation: every year the pension benefits increase with the rate of either the *wage* increase or the *price* increase. There are a number of combinations of the two pure types, among which the most widespread one is the 50-50% combination that is also known as “Swiss indexation”. In the early years of transition (between 1989 and 1996), when real wages decreased by cc. 20%, *wage indexation*

was used to relieve the pension budget (cf. Table A.1 below). (It has the advantage that the relative value of the benefit in progress to the nationwide average wage remains invariant to the number of years passed after retirement.)

When the Hungarian GDP and real wages started to increase steadily, policy makers realized the burden of preserving wage indexation (cf. Table A.1 below). They could have introduced *price indexation*, with the advantage of preserving the real value of the benefit in progress when the nationwide average real wage decreases, but they carefully chose combined indexation. This way, the general government saved a lot: With a given initial pension and a steady annual nationwide average real wage increase of 2%, wage indexation would have cost by cc. 10% more than combined indexation did. Hence, the combined indexation preserved both the relative and the real stability of pensions but in a limited way.

There is a further complication with indexation. If the *past* year increase in wages or in prices are taken into account, then any abrupt change in index dynamics over- or under-indexes benefits. If the *expected* annual increase in the foregoing index is used, then any error in the forecast distorts indexation. Since 1999, the Hungarian pension law has prescribed expected indexation; combined wage–price indexation until 2009, and pure price indexation since 2010. (Note that in addition to the pension bonus already mentioned, the otherwise resolutely stability-oriented Bajnai-government in 2009 introduced a dubious modification: the 50-50% wage-price combination would apply only if the annual economic growth rate reached 5%. The condition is surrealistic but opens the door to populism.)

There have always been various tricks to raise or diminish pension benefits in Hungary, but a very visible form of rise was the introduction of the so-called 13<sup>th</sup> month pensions between 2003 and 2006 by the center-left government of 2002-2006.<sup>2</sup> This somewhat counterbalanced the impact of reduced indexation introduced in 2000 by the center-right government, but it also raised government pension expenditure by 8.3% with respect to original calculations, and upset the balance between the pay-as-you-go and the mandatory private pension pillars.<sup>3</sup> Although the 13<sup>th</sup> month pension was a popular policy measure, it was cancelled altogether in 2009 in context of the stand-by agreement Hungary made with EU, the World Bank and the IMF, when obtaining official financing in 2008 after the outbreak of the global financial crisis. In consequence, the 13<sup>th</sup> month pensions became an

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<sup>2</sup> Together with the compensation for the insufficient indexation applied by the Fidesz-government in 1998-2002, the 13<sup>th</sup> month pension was promised by the opposition Socialists in their election manifesto in 2002.

<sup>3</sup> As it has been already mentioned, Fidesz promised the introduction of a 14<sup>th</sup> month pension in their 2006 election manifesto, but lost the elections against the Socialists.

experience of short lived extraordinary pension hike, whose reintroduction is a recurring populist political theme, both on the political left and right.

### *3.4. Redistribution in pensions*

Though the bulk of the pensions one receives are pension in progress, every pension had started as an *initial pension*. There are two pure types of initial public pensions: (i) flat benefits and (ii) defined contribution benefits (for short, DC). Both have subtypes: ad (i) whether the benefit depends on the number of years of contribution or not; and ad (ii) whether the benefit depends on all or the latest years of employment. In practice, most countries operate a combination of the two pure types.

Hungary has been operating a very complex system, where progression of the lifetime average net wage plays a prominent role, and the initial pension is proportional to the average of the valorized net wage of each year between 1988 and the year of retirement. To avoid superfluous details, we can approximate the degree of redistribution by a scalar which determines the share of the flat part in the combination (Disney, 2004). For example, if we approximate a pension system as the linear combination of the flat and the proportional components, then our claim is obvious.

Hungary started the post-communist transition with a doubly progressive pension formula: (i) the very progressive personal income taxation made net wages a very compressed function of gross wages and (ii) the pensions were a very compressed function of net wages. To make the remaining public pillar also DC-type by 2013, when the first private life-annuity was planned to be paid out, the pension progressivity described in (ii) was practically phased out by 2009. (While in 1998, a large part of the new pensions were diminished by this rule, in 2009, hardly any.) The progressivity of the benefit–contribution length was also planned to be replaced by 2013 by a proportional scale. For example, while in 1998 the first 20 years of employment gave 53% of the total benefit out the total 80% implied by 40 years of employment, this was planned to be reduced to 40%.

In sum, the pre-2010 pension system had started off as a strongly progressive regime in which considerable redistribution from high earners with long careers to low earners with short careers took place through both net wages and pensions. As the pension system was reformed and the progressivity of personal income taxation was reduced, whereas the

remaining public pillar's defined contribution character was to be ensured after the 1998 partial privatization, the degree of redistribution was considerably cut back by 2009.

### *3.5. Contribution rates*

Ideally, expenditures of government-run, statutory pension and health systems are financed from contributions. In well-run countries, other sources of revenues may also finance social security expenditures but this requires much stronger budgetary discipline as is the rule in Hungary. Contributions are also broken up into the ones paid by employees and employers. These four rates (pension, health / employee, employer) had kept changing during the entire period. Because of the permanent restructuring of the various pensioner categories, it is difficult to keep track of all the changes. With the carving out of the mandatory private pillar in 1998, financed from employee pension contributions, an apparent deficit called transition cost arose in the public pension pillar. This can be estimated to have reached as much as 1.3% of GDP per annum.

Another issue was the *cap* on the contribution base: as in most other countries, to limit annual pension benefits, between 1992 and 2012, in Hungary too, there was a cap on employees' contribution base, which defined the very pensions. In 2009, the total amount of above-cap employees' contribution was less than 2% of total pension contributions, much lower than the corresponding employers' contributions—that was never capped—amounting to 5%. At the cost of some simplifications, we can consider as if this 5% were transferred from the above-cap pensioners to the below-cap ones. Hence, contribution rates had also delivered some degree of solidarity in the pre-2010 pension system.

## **4. The period of authoritarian populism: Pension policies in 2010–2017**

Following the collapse of the center-left vote, with 53% of the votes given to party lists, center-right Fidesz gained 68% of parliamentary seats at the 2010 elections. In addition, far right Jobbik (Movement for a Better Hungary) got hold of 12% of parliamentary seats. With its two third majority, Fidesz was able to change any piece of legislation and to alter the entire constitutional system. It did so systematically, eliminating all meaningful checks and balances



on governmental power, including the effective independence of the Constitutional Court, subordinating the public media, and exercising explicit political influence on private media outlets. Fidesz cronies obtained large market shares in key industries, including the media, construction, banking, retail trade and other industries. Independence of government agencies was effectively suspended by appointing loyal friends, in numerous cases for unprecedentedly long tenures. Professional ethos of civil servants got destroyed by new legislation making hiring and firing a discretionary right of political appointees. Election rules were changed to the benefit of ruling Fidesz, whereas public funds have been heavily used to building clientele and for waging political campaigns by Fidesz (Bozóki 2015, Kornai 2015, Freedom House 2016).

In short, a semi-authoritarian state has been established that in numerous respects fringes upon EU rules, and has created a political system that can be called an autocracy (Kornai 2016) or a hybrid regime (Bozóki and Hegedűs 2017). This is neither a democracy nor a dictatorship but a political system in between, in which opposition parties and media outlets can operate legally but their public reach is constrained by formal rules and informal customs created and maintained by the government and its clientele. In consequence, effective political competition is limited, but democratic change is not per se excluded. This system, we argue, is also based on populist political practice, but this is another type of populism than the one we saw in Section 3.

We argued that democratic populism characterizing the pre-2010 period seeks to shelter large segments of society from market forces by relying on public funds, undermining fiscal sustainability in general and the sustainability of the pension system in particular. (In fact, the three-pillar pension system of the 1997-1998 reform was introduced to address the sustainability problem, as the reformers believed that the sustainability could and should be restored by channeling private savings into the pension system through the mandatory private pension funds.) In fact, democratic populism had been associated with bad economic policies, but it never sought to constrain political competition. Generally it respected the rule of law, and usage of public funds for private political means, although existed, was much more modest than after 2010 (cf. CRCB 2016).

In short, authoritarian populism is semi-autocratic governance amidst democratic facades; a system in which effective political choice is constrained but the government can still enjoy popular legitimacy through elections (cf. Ádám 2017). Our research question in this paper is whether we can differentiate between democratic and authoritarian populisms at the

policy level, namely with respect to pension policies. Having presented pension policies in the period of democratic populism in 1998-2010, we now turn to the post-2010 period of authoritarian populism, and once again touching upon the five dimensions of pension policy we discussed in Section 3.

#### *4.1. Renationalization*

When the newly elected prime minister, Viktor Orbán flew to Brussels in May 2010, he first tried to convince the European Commission to open the door to relaxing the budget. When this request was denied by the Commission, the new government had only days to work out a new economic program. After some trials, as the simplest solution to enlarge its maneuvering room, in late 2010 the government renationalized the mandatory private pillar. During their existence, the private pension funds worked with so high cost (World Bank, 2006 and Guardiancich, 2008) that there was practically no political opposition to their closure (Simonovits, 2011). As a result, the annual budget deficit-to-GDP ratio immediately dropped by 1.3% and the nationalization of assets of the mandatory private pillar opened a room to the reduction of public debt by about 10% of GDP.

The government dared not simply close down the mandatory private pillar. Rather, a new law was enacted which offered two options: either (i) a member returns to the monopillar and can cash in the positive real yields accumulated on his/her account (on average, amounting to a modest 7% of the capital) or (ii) a member stays in the private pillar, and after a one year break, can restart his/her employee's contributions (of 10% of his/her gross wages) to the private account but his/her future employer's contribution (of 24% of the gross wage) stops increasing his/her prospective public benefit. Small wonder that 97% of the members of the mandatory private pillar returned to the monopillar system.

The remaining 3% of the erstwhile members (holding 10% of the original total capital) successfully sued the government and in a year, the parliament adopted new legislation: the remaining members were not allowed to restart contribution to their private accounts but their entire contribution (34% of gross wages, paid by employees and employers combined) continued to be forwarded to the monopillar and keeps earning additional public pension rights. (Until now, however, there is no law determining the rules of paying private benefits at retirement for them.)

Opposition parties claimed that the government stole people's savings accumulated on private pension accounts. Being afraid of an economic collapse and/or the nationalization of bank accounts, many Hungarian citizens transferred their ordinary private savings into foreign bank accounts. Meanwhile in its Convergence Report 2018-2021, the government claimed that by closing down the mandatory private pension pillar, it diminished and keeps diminishing government debt. As if the Report's authors have not heard about the transformation of explicit into implicit debt, no mentioning of the rise in implicit public debt as a result of growing benefit claims can be found in the Report, though.

At the end of this Subsection, we cite four numbers on the share of the public pension system in proportion to GDP in 2011. With expenditures on pensions at 10.8% of GDP, Hungary fell between the minimal Lithuanian (7.6%) and the maximal Polish (11.3%) ones within EU11 (post-communist countries that have joined the EU), and all the three are well below the EU28 average (12.6%) (Domonkos and Simonovits, 2016, Table 2, p. 7). It is also noteworthy that by transferring disability pensions from the public pension system to another category, frontline pension expenditures were cut to 9.4% of GDP in 2012. These unusual measures contribute to hiding the real problems of the Hungarian pension system.

#### *4.2. Females40 & rigid retirement age*

In its election program of 2010, Fidesz made a promise: women who have accumulated at least 40 years of rights before reaching the normal retirement age will be allowed to retire with full benefit (Females40). While the initial pension benefit depended and still depends on the number of years of contributions, and the years spent in vocational school or in higher education (before 1998) count as contribution period, the years of rights exclude them. These qualifications did not work out, probably because a lot of employees studying in vocational schools or higher education did so on a part-time basis beside work. As a result, since the introduction of Females40 in 2011, more than 70% of the newly retired females have been using this exit route, with the actual average retirement age much below the steeply rising normal (full benefit) retirement age.

Perhaps as a countermeasure, since 2012 no early retirement has been allowed, not even with actuarially fair benefit reduction. (The channels of disability retirement were significantly narrowed down as well, raising concerns with respect to the dignity of beneficiaries, Szikra and Kiss, 2017.) The publicly available statistics of the ONYF (2012–

2016) as well as the analysis of Czeglédi, Simonovits, Szabó, Tir (2016) demonstrate the inefficiency and inequity resulting from the introduction of Females40 and the elimination of the possibility of early retirement.

Here we stay content with the simplest numerical calculations. Compare two women: one acquired 40 years of rights and retired at the age of 58 with full benefit, i.e. 80% of her valorized average net wage. The other woman wants to retire at age 63 with 39 years of rights but she cannot because from 2017, the normal retirement age is 63.5 years. In a sensible flexible pension system, the government would deduct  $5.5 \times 6\% = 33\%$  of the full benefit from the first woman, i.e. she would receive 53.6% of her net wage, while the second woman would obtain  $0.78 \times (1 - 0.06 \times 0.5) = 75.7\%$  of her net wage.

It is also worth presenting some data on real outcomes rather than simplified calculations presented above. Sampling well-known statistics, Table 2 displays the characteristics of males, females and females 40 between 2010 and 2014. The outcome is chaotic. The relative size of newly retired cohorts developed erratically. For example, in 2010, the number of newly retired females (13,600) was as low as 20% of the number of those females of normal retirement age (68,800), while in 2011, it jumped to 119% (84,900 / 71,100). Obviously, in 2010, females delayed retirement until the much more favorable era starting in 2011. The tendency for early female retirement has continued.<sup>4</sup>

Table 2. Retirement ages and relative sizes: males, females and females 40, 2010–2014

Year	Males		Females		Females 40	
	Average retirement age (year)	Relative size	Average retirement age (year)	Relative size	Average retirement age (year)	Relative size
2010	60.2	0.676	60.7	0.198		
2011	60.3	0.753	58.5	1.194	57.6	0.769*
2012	62.0	0.365	59.1	0.727	57.8	0.374
2013	62.2	0.356	59.5	0.544	57.8	0.329
2014	62.2	0.249	59.3	0.484	58.2	0.360

Source. Table 1 above. \*Oral communication: The number for Females 40 in 2011 also contains those who retired earlier but were reclassified in 2011.

<sup>4</sup> Whereas some political parties propose the restoration of the early retirement system, no party dares to argue against Females40. Moreover, the two biggest opposition parties promise the introduction of Males40 in case they won the next elections.

### 4.3. Overindexation

Pensions were considerably overindexed in 2013–2016 with respect to the law (see Table A.1). Anticipating falling global energy prices and delivering a popular policy measure before the 2014 elections, the Fidesz government administratively forced a significant household energy price cut on energy retail suppliers. Willy-nilly, these price reductions were left out in the official consumer price forecast between 2013 and 2016, therefore the actual cumulative price increase was by about 8.6% lower than the forecast. This way, price-indexed pensions increased by 8.4% in real terms (see Table 3), celebrated by the government propaganda as the revival of the 13<sup>th</sup> month pensions which the center-left government withdrew in 2009 (Subsection 3.3 above).

Table 3. Forecast and actual inflation rates %: 2013–2016

Inflation	2013	2014	2015	2016
Forecast	5.2	2.4	1.8	1.6
Actual	1.7	-0.2	-0.1	0.4

Very few experts or politicians dared criticize this “achievement”; and more and more citizens consider the pension expenditure as a free good. ‘Sophisticated’ critics only underlined that those who retired later than the process started received only a part or zero pension increase. (The possible activation of the flexible indexation mentioned in Subsection 3.3 was eliminated in 2011!)

It is a telling example of the arbitrariness of indexation that the government gave an extra uniform additional benefit at the end of 2016 amounting to 8% of the monthly average pension and plans to apply the pension bonus mentioned in the Introduction to Section 3, as the economic growth rate is expected to be 4.1% in 2017. Fortunately, the very same government ‘forgot’ about this measure in 2015, when the GDP growth rate was 3.9%, above the critical growth rate of 3.5%.<sup>5</sup>

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<sup>5</sup> Less fortunately, in one of his regular radio interviews, the prime minister recently mixed up the bonus with the end-of-year make-up of the inflationary benefit raise.

#### 4.4. Polarization of initial pensions

As mentioned in Subsection 3.4, until 2010, the personal income tax was rather progressive with significant earned income tax credit) and two marginal tax rates around 20 and 40%. Since 2011/2012, it is a proportional (flat rate) income tax, earlier with 16%, currently with 15% rate. Each year since 2011, low earners have been paying relatively more tax than before 2011, whereas high earners have been paying relatively less tax than before. Consequently, with passing time, the low new pensions become lower, and the high new pensions become higher, resulting in considerable *polarization* of pensions. To give two simple examples: (a) Consider a worker with a minimum wage. He/she has not paid any personal income tax between 2003 and 2010, while now he/she pays 15% of his/her gross wage. Though the gross nominal minimum wage grew a lot, the corresponding real value of the net wage hardly rose between 2010 and 2016. (b) Consider another employee, who earns three times the average wage (close to the cap on the employee's pension contribution base around 2010). Before the personal income tax reform of 2011, he/she paid as a tax cc. 40% of his/her gross wage above the average, now he/she pays only 15%.<sup>6</sup>

Table 4 reports the wildly diverging relative real household incomes of the average, the lowest and the highest deciles in Hungary between 2010 and 2015. While the average real income dropped from 100 (2010) to 95.7 (2012), and jumped to 109 (2015), the lowest decile's indicator dropped from 31.8 (2010) to 27.7 (2012), and only returned to its initial value in 2015. The highest decile's indicator oscillated but eventually grew from 231.1 to 259.9. It is an open question how much these numbers are sensitive to the changing degree of tax evasion and imperfect observations.

Table 4. Real incomes: lowest vs. highest deciles, 2010–2015

	Average	Lowest 10%	Highest 10%
2010	100.0	31.8	231.1
2011	101.2	31.7	234.5
2012	95.7	27.7	228.7
2013	99.1	28.6	242.2
2014	104.1	30.0	250.4
2015	109.0	31.6	259.9

<sup>6</sup> A number of the opposition parties promise the return to the progressive personal income taxation. The Socialists, in particular, proposed the replacement of the uniform 15% system with a 5-10-15% system, actually halving the tax revenue. It is not clear how they would make up for lost budgetary revenues.

An especially wild form of the pension polarization, connected to the elimination of the annual cap, is visible even to the ordinary citizen. As the number of capless years rises, more and more pensioners receive a benefit above the mythical value of one million forints (cc. 6 times the average net wage or cc. 8 times the average net pension).<sup>7</sup>

#### 4.5. Contribution rates

Tables 5 and 6 depict the rounded-off values of the corresponding contribution rates in 2016 and 2017, respectively. While the initial total contribution rate (pension and health combined, in terms of gross wage) of 44% is generally considered very high, international comparisons do not support this view (for example, in Slovakia, this figure is 48%)<sup>8</sup>. Confining attention to the total pension contribution rate, note that in a single year, it decreased from 32% to 26%. It is easy to see that the radical reduction which was forced through parliament in a rush, six months after the acceptance of the budget for 2017, diminished the first factor of the revenue product to  $(26/32=)81.25\%$ . To counteract this drop, the second factor, the aggregate wage should increase at least to  $(32/26=) 123.1\%$ . Though the wage growth was quite fast in 2016 and will be quite fast in 2017, this reduction will increase the general government deficit, and will hence prevent from increasing expenditures on much-neglected health care.

Table 5. Breakdown of contribution rates between pension and health, employee and employer, 2016, %

	Employee	Employer	Total
Pension	10	22	32
Health	7	5	12
Total	17	27	44

<sup>7</sup> A number of parties of the opposition promise to introduce the cap again. Others also plan to introduce a flat component without clarifying its financial sources.

<sup>8</sup> It is another problem that the tax wedge (which also includes the personal income tax and expressed in terms of total wage costs) was very high in Hungary for low earners.

Table 6. Breakdown of contribution rates between pension and health,  
employee and employer, 2017, %

	Employee	Employer	Total
Pension	10	15.8	25.8
Health	7	4.5	11.5
Total	17	20.3	37.3

## 5. Discussion and conclusions

We have compared pension policies pursued by Hungarian governments in two periods: in the period of democratic populism in 1998-2010, and in the period of authoritarian populism in 2010-2017. It would be tempting to praise the first period as the era of good governance and criticize the second as that of bad governance. Unfortunately, concerning pension policy, both periods were bad, in general.

In the first period, an incoherent pension policy was followed: the carved-out mandatory private pillar had not delivered the promised fruits, the rise in the normal retirement age was only partly followed by the rise in average retirement age; the partial elimination of redistribution increased high initial pensions, whereas indexation remained haphazard, including the introduction and elimination of the 13<sup>th</sup> month benefits in 2003-2009. Hence, our empirical results confirmed our hypotheses with respect to the 1998-2010 period: pension policies were erratic and served short-term electoral demands, without offering long term solutions for structural problems.

The assessment of the post-2010 period is more complicated. By nationalizing mandatory private pension funds arrogantly, the contributors were intimidated and the spirit of the rule of law weakened. Long term fiscal sustainability, however, was not improved but—taking into consideration the implicit debt towards future pensioners—in fact deteriorated. Effective retirement age has not risen but, on the contrary, dropped in consequence of Female40, even if other options of early retirement—irrationally enough—were eliminated. As overindexation of pensions became a fixture of the government’s pension policy, it would



be hard to argue that stability and predictability were enhanced with respect to indexation. Moreover, recent cuts in contribution rates have probably also weakened the long term sustainability of the pension system, contradicting our hypothesis of attaining more stable and reliable financial positions through the maintenance of contribution rates. In turn, with the elimination of progressive income taxation and of the progression of pensions, pro-poor income redistribution through pensions was reduced after 2010 in line with our expectations.

Hence, the record of authoritarian populism is mixed: elimination of mandatory private pension funds and the resulting short term windfall revenue in government budget have so far not been associated with improved financial sustainability. Meanwhile, with declining income redistribution through the pension system and with the continued polarization of (first new, later all) pensions, the Fidesz government appears serving the interests of its upper-middle class voters.

Although some systemic differences in policy making between the pre- and post-2010 periods could be demonstrated; erratic, unpredictable pension policies and recurring sustainability problems have been characteristics of both democratic and authoritarian populisms. Moreover, as long term structural characteristics of the pension system have not improved in the post-2010 period, the forced nationalization of mandatory private pension funds and the concomitant intimidation of society can be hardly justified on economic grounds. What was then the political rationale of the post-2010 government in conducting such an arrogant policy course?

The nationalization of mandatory private pension funds fits well the authoritarian populist policy pattern of the post-2010 period. A key policy emphasis of this period has been the expansion of short term fiscal policy space that has been served by nationalization. Another objective has been the creation of credible commitments towards authoritarian policies that transform the entire policy space and alter state-society relations, ensuring the continued dominance of authoritarian governments (cf. de Mesquita and Smith 2011, Müller 2016.). By ignoring concerns over the protection of private savings, the second Orbán government exhibited a lack of restraint in pursuing its illiberal policies, reconstructing behavioral patterns by forcing citizens to adapt to new political realities.

Famele40, in turn, appears to resemble the pre-2010 democratic populist era. By offering a generous benefit scheme for females with 40+ years of rights, Fidesz kept its electoral promise and continued to play the generous pension policy card in its electoral game, reproducing one of the most preferred policy measures of the pre-2010 democratic populist

period. In this sense, the Orbán government has managed to combine authoritarian and democratic populisms with respect to pension policies—an example of its highly effective electoral strategies that ensured its unchallenged reign over Hungarian politics since 2010.

## Appendix. Indexation between 1993 and 2015

The latest economic history of Hungary is a good illustration of turmoil. Table A.1 presents the annual growth rates of GDP ( $g_y$ ), of real wages ( $g_w$ ) and of real pensions ( $g_b$ ) in Hungary in 1993–2015. We include the replacement ratio as well, being the ratio of average benefit to average net wage:  $\beta_t = b_t/v_t$ . Rather than commenting the quite erratic GDP and real wage dynamics, we confine our attention to the even more chaotic pension dynamics. There were three phases of indexation in Hungary: wage, combined wage-price and price-indexed as in Table A.1 below. There were years, when the indexation rules were followed, for example in 1993, 2001 and 2011–2012. As the comments of the last column show, in addition to these changes, there were important discretionary measures overwriting rules, due to elections (denoted by E), the introduction (2003–2006) and elimination (2009–2010) of the 13th month benefits, and the overestimation of inflation resulting in overindexation (2013–2015), respectively. The overindexation in year  $t$  is defined as  $g_b - 1$  in years of price indexation.

To obtain some statistical indicators, first we report the arithmetic averages of the growth factors:

$\mathbf{E} g_y = 1.021$ ,  $\mathbf{E} g_w = 1.018$  and  $\mathbf{E} g_b = 1.019$ .

(The more appropriate geometric averages hardly differ: 1.02, 1.017 and 1.018, respectively).

Second, we present the standard deviations of the three growth rates, which are quite high:

$\mathbf{D} g_y = 0.026$ ,  $\mathbf{D} g_w = 0.054$  and  $\mathbf{D} g_b = 0.050$ .

Table A.1. Output, real wage and real pension dynamics: Hungary: 1993–2015

Year	Growth rate			Replacement rate	Comments
	GDP	net wage	pension		
wage indexation					
1993	-0.8	-3.9	-4.6	0.603	
1994	3.1	7.2	-4.7	0.594	E: change in PIT
1995	1.5	-12.2	-10.1	0.619	change in delay
1996	0.0	-5.0	-7.9	0.593	
1997	3.3	4.9	0.4	0.563	
1998	4.2	3.6	6.2	0.578	E
1999	3.1	2.5	2.1	0.592	
Swiss indexation (half wage+half price)					
2000	4.2	1.5	2.6	0.591	
2001	3.8	6.4	6.6	0.591	+ raise
2002	4.5	13.6	9.8	0.573	E++ raise
2003	3.8	9.2	8.5	0.568	+ 1 week pension
2004	4.9	-1.1	3.9	0.600	+ 2 weeks pension
2005	4.4	6.3	7.9	0.611	+ 3 weeks pension
2006	3.8	3.6	4.5	0.623	E + 4 weeks pension
2007	0.4	-4.6	-0.3	0.668	
2008	0.8	0.8	3.4	0.691	
2009	-6.6	-2.3	-5.7	0.672	no 13th month: part 1
2010	0.7	1.8	-0.9	0.651	E + part 2
price indexation					
2011	1.8	2.4	1.2	0.647	
2012	-1.7	-3.4	0.1	0.670	
2013	1.9	3.1	4.5	0.678	overindexation
2014	3.7	3.2	3.2	0.675	E+ overindexation
2015	2.9	4.3	3.5	0.668	overindexation

Source: ONYF (2016, Table 1.3, p. 16).

The standard deviations of the growth rates of real wages and of the real benefits are close to each other and twice that of the output.

Third, we display the correlation coefficients of the three variables:

$$\rho(g_y, g_w)=0.559, \rho(g_w, g_b) = 0.879 \text{ and } \rho(g_y, g_b) =0.681.$$

All the three coefficients are positive and quite strong. The strength of the first is weaker than the second, and the third lies between them.

## References

- Augusztinovics, M.; Gál, R. I.; Matits, Á.; Máté, L.; Simonovits, A.; Stahl, J.** 2002, “The Hungarian pension system before and after the 1998 reform”, in E. Fultz (ed.), *Pension Reform in Central and Eastern Europe*, Vol. 1–2, Geneva, International Labour Office.
- Augusztinovics, M. and Köllő, J.**, 2009, “Decreased employment and pensions. The case of Hungary”, In: Holzmann R., MacKellar L., Repansek J. (eds.), *Pension Reform in Southeastern Europe. Linking to Labor and Financial Market Reform*. Washington, D.C.: World Bank, 2009. 89–104.
- Augusztinovics, M. and Martos, B.** 1994, “Pension System: Calculations and Conclusions”, *Acta Oeconomica*, 48, 119–160.
- Ádám, Z.** 2017. “Gerrymandering the Nation. A Political Transaction Cost Theory of Populism”, Mimeo, Corvinus University of Budapest.
- Bajkó, A.; Maknics, A.; Tóth, K. and Vékás, P.** 2015, “On the sustainability of the Hungarian pension system” (Hungarian), *Economic Review*, 62, 1229–1257.
- Banyár, J.** 2017, “European handling of the implicit and explicit government debt as an obstacle to funding-type pension reforms”, *European Journal of Social Security*, 19(1), 45–62.
- Barr, N. and Diamond, P.** 2008. *Reforming pensions: Principles and policy choices*, Oxford, Oxford University Press.
- Bozóki, A.** 2015. “Broken Democracy, Predatory State and Nationalist Populism” in Péter Krasztev & Jon Van Til eds. *The Hungarian Patient: Social Opposition to an Illiberal Democracy*, Budapest: CEU Press, 3-36.
- Bozóki, A. and Hegedűs, D.** 2017. “An Externally Constrained Hybrid Regime: Hungary in the European Union” Paper presented at the annual conference of the Council of European Studies, Glasgow, U.K. July 12-14.
- Brubaker, R.** 2017. “Between nationalism and civilizationism: the European populist moment in comparative perspective”. *Ethnic and Racial Studies*, Vol. 40, Issue 8, pp. 1191-1226.
- Casey, B. H.** 2014, “From pension funds to piggy banks: (Perverse) consequences of the Stability and Growth Pact since the crisis”, *International Social Security Review* 67, 27–48.

- CRCB** 2016. “Competitive Intensity and Corruption Risks. Statistical Analysis of Hungarian Public Procurement – 2009-2015. Data and Descriptive Statistics”, Corruption Research Center Budapest.
- Czeglédi, T.; Simonovits, A.; Szabó, E. and Tir, M.**, 2016. “Retirement rules in Hungary: gainers and losers”, IE-CERS-HAS Working Paper, 31.
- de Mesquita B. B. and Smith, A.**, 2011. *The Dictator’s Handbook: Why Bad Behavior is Almost Always Good*. New York: PublicAffairs.
- Dekkers, G.; Desmet, R.; Rézmovits, Á; Sundberg, O. and Tóth, K.**, 2015, “On using dynamic microsimulation models to assess the consequences of the AWG projections and hypotheses on pension adequacy: Simulation results for Belgium, Sweden and Hungary”. Brussels–Budapest, ONYF mikroszimulacio.onyf.hu=goo.gl/U28Wka.
- Disney, R.**, 2004. “Are contributions to public pension programmes a tax on employment?” *Economic Policy* 39, 267–311.
- Dornbusch, R. and Edwards, S.** 1989. “Macroeconomic Populism in Latin America”. National Bureau of Economic Research (Cambridge, MA) Working Paper No. 2986.
- Drahokoupil, J. and Domonkos, S.** 2012. “Averting the funding-gap crisis: East European pension reforms since 2008”, *Global Social Policy*, 12, 283–299.
- Domonkos, S. and Simonovits, A.**, 2016, “Pensions in Transition in EU11 Countries between 1990 and 2015”, IE-CERS-HAS Working Paper, 15, its revised version to be published in the *International Social Security Review*.
- EBRD** 1999. Transition report 1999. Ten years of transition. London: European Bank for Reconstruction and Development.
- Fazekas, K. and Varga, J., eds.** 2015. *The Hungarian Labor Market 2015*, Budapest, IE-CERS-HAS.
- Finchelstein, F.** 2014. “Returning Populism to History”, *Constellations*, Vol. 21, No. 4, pp. 467-482.
- Freedom House** 2016. *Nations in Transit. Hungary Report*, Washington DC: Freedom House.
- Freudenberg, Ch.; Berki, T. and Reiff, Á.** 2016, “A long-term evaluation of recent Hungarian reforms”, Budapest, Magyar Nemzeti Bank WP 2.
- Gál, R. I.; Iwasaki, I. and Széman, Zs, eds.** 2008. *Assessing intergenerational equity: An interdisciplinary study of aging and pension reform in Hungary*, Budapest, Akadémiai Kiadó.

- Granseth, E.; Keck, W.; Nagl, W.; Simonovits, A. and Tir, M.,** 2016: “Negative correlation between retirement age and contribution length?” CERS-HAS Working Paper 33.
- Guardiancich, I.** 2008. “How not to implement: Hungarian pension reform in an institutional perspective” (TIGER Working Paper 110), Warsaw.
- Halmai, G.** 2017. “National(ist) constitutional identity?: Hungary’s road to abuse constitutional pluralism”. EUI LAW Working Papers, 2017/08.
- Hirose, K. (ed.)**. 2011. *Pension reform in Central and Eastern Europe in Times of Crisis, Austerity and Beyond*. ILO, Budapest.
- Holtzer, P. (ed.)**. 2010. *Report of the pension and old-age round table on its activities between March 2007 and November 2009*, Budapest, Hungarian Government.
- Kornai, J.** 1992. *The Socialist System. The Political Economy of Communism*, Princeton: Princeton University Press and Oxford: Oxford University Press.
- Kornai, J.** 1995. "Eliminating the Shortage Economy. A General Analysis and Examination of the Developments in Hungary", *Economics of Transition*, 1995, 3/1: 13-37, 2:149-168.
- Kornai, J.** 1996a. “Paying the Bill for Goulash-Communism: Hungarian Development and Macro Stabilization in Political-Economy Perspective”, *Social Research*, Winter 1996, 63/4: 943-1040.
- Kornai, J.** 1996b. “Hardening of the Budget Constraint under the Postsocialist System”. *Japan and the World Economy*, 1996, 8: 135-151.
- Kornai, J.** 2015, “Hungary’s U-turn: Retreating from democracy”, *Journal of Democracy*, 26:3, 34–48. Full version: [www.kornai-janos.hu](http://www.kornai-janos.hu).
- Kornai, J.** 2016. “The system paradigm revisited: Clarifications and additions in the light of experiences in the post-socialist region." *Acta Oeconomica*, vol. 66 (4), pp. 547–596.
- Kriesi, H. and Pappas, T. S. eds.** 2015. *European Populism in the Shadow of the Great Recession*, Colchester, UK: ECPR Press.
- Magyar, B.** 2016. *The Postcommunist Mafia State: The Case of Hungary*, Budapest: CEU Press.

- Magyar, B. and Vászárhelyi, J. eds. 2017.** *Twenty- Five Sides of a Postcommunist Mafia State*, Budapest: CEU Press.
- Mudde, C. 2004.** “The Populist Zeitgeist”. *Government and Opposition*, Vol. 39, No. 4, pp. 541–563.
- Mudde, C. and Kaltwasser, C. R. 2017.** *Populism: A Very Short Introduction*, Oxford and New York: Oxford University Press.
- Mulligan, C.B.; Gil, R. and Sala-i-Martini, X., 2004,** “Do democracies have different public policies than nondemocracies?” *Journal of Economic Perspectives* 18(1), 51–74.
- Müller, J.-W. 2016.** *What is Populism?*, Philadelphia: University of Pennsylvania Press.
- Oblath, G., 2016,** “Economic policy and macroeconomic developments in Hungary, 2010–2015”, Warsaw, Case Seminar Proceedings, 143.
- ONYF (2012–2016):** *ONYF Statistical Yearbook, 2011-2015*, (in Hungarian) Budapest, Central Administration of National Pension Insurance, for short CANPI.
- Pirro, A. L. P. 2015.** *The Populist Radical Right in Central and Eastern Europe*, London: Routledge.
- Sachs, J. 1989.** "Social Conflict and Populist Policies in Latin America," National Bureau of Economic Research (Cambridge, MA) Working Paper No. 2897.
- Simonovits, A. 1999.** “The new Hungarian pension system and its problems”, in K. Müller; A. Ryll; H. J. Wagener, (eds.). *Transformation of Socials Security: Pensions in Central-Eastern Europe*, Heidelberg, Physica.
- Simonovits, A. 2011.** “The mandatory private pension pillar in Hungary: An obituary”, *International Social Security Review*, 64:3, 81–98.
- Szikra, D., 2014.** “Democracy and welfare in hard times: The social policy of the Orbán government in Hungary between 2010 and 2014”, *Journal of European Social Policy*.
- Szikra, D. and Kiss, D. (2017):** Beyond Nationalization Assessing the Impact of the 2011-2012 Pension Reform in Hungary, to appear in the *Sociological Review*.
- Tóth, G. A. ed. 2011.** *Constitution for a Disunited Nation. On Hungary’s 2011 Fundamental Law*, Budapest: CEU Press.
- Vanhuysse, P. 2006,** *Divide and pacify: Strategic Social Policy and Political Protest in Post-Communist Democracy*, Budapest, CEU Press.



**Vörös, I. 2015.** “Hungary’s Constitutional Evolution during the Last 25 Years”,  
Südosteuropa, Vol. 63. No. 2. 173-200.

**World Bank.** 1994. *Averting the old age crisis: Policies to protect the old and promote growth* (Policy Research Report), Oxford, Oxford University Press.

**World Bank.** 2006. *Pension reforms and the development of pension systems: An evaluation of World Bank assistance*, Washington DC, Independent Evaluation Group, World Bank.