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FACTORS INFLUENCING PENSION PRIVATIZATION IN FORMER COMMUNIST COUNTRIES IN EASTERN EUROPE AND CENTRAL ASIA

Abstract:
From 1990 onwards, a significant number of former communist countries from Eastern Europe and Central Asia decided to reform their public pension system by creating a mandatory private pillar. Other ex-communist countries from the same two regions only made some parametric changes to their public pension system. There are concurrent theories trying to explain why certain countries implemented a paradigmatic reform on the pension systems while others did not. All these theories are focusing on what factors determine the decision makers to reform the public pension system: the coercion of international financial institution, demographic and economic pressures, political support, the relative strength of government and unions or the proportion of peer countries that have adopted similar measures. This study tests the influence of all the factors mentioned above on the decision to adopt the pension privatization in former communist countries from Eastern Europe and Central Asia. Using event history analysis with time-varying covariates of data from 24 states between 1990 and 2013 the study shows that the probability to reform the public pension system in one country increases as the proportion of neighbor countries who adopted the same measure rises. The conclusions of this research can be compared with those taken from the interviews with the decision makers from countries of interest. Also, the research can be used as a starting point for studying the steps backwards made on this path by Hungary, Poland and Argentina. These countries had reversed the pension privatization by transferring savings under management by private pension funds back to the public sector.

Keywords: pension reform, ex-communist countries, mandatory private pillar, coercion of international financial institution, demographic and economic pressures, diffusion wave

JEL Classification: A14, G23, P29
The pension privatization in Eastern Europe reflects the principles of “the new social order” in the region. These new principles are based on the social individualism paradigm (Popescu, 2004) that can be characterized by a low level of social security benefits and by an increase in the importance of the social work.

The evolution of pension systems reform in Eastern Europe differed from country to country therefore there is no pattern that can characterize the privatization in this region. Some countries implemented the Chilean three pillar system, others did not. There are also differences between the states who did privatized the pension system, differences consisting in the relative magnitude of the first two pillars: Slovakia, for example, moved a half of the savings from the first pillar to the private administrated funds, in other countries from the region this proportion is smaller. There are countries that started sooner the pension reform process, as it is the case for Hungary and Poland, and countries who waited for the middle of the last decade to make the step toward the private administration of the pension funds.

There are concurrent theories trying to explain why certain countries implemented a paradigmatic reform on the pension systems while others did not. All these theories are focusing on what factors determine the decision makers to reform the public pension systems. All these factors are presented in the next pages, and the main objective of this paper is to test the predictive power of each theory that includes one of these factors.

The influence of international financial institutions

There is a large amount of evidences that international financial institutions are playing a role in the reform of pension systems in the underdeveloped countries. This theory explains the quick adoption of the same reform (like a three pillar pension system after the privatization) in different environments by emphasizing the external pressure put by the IFI (international financial institutions) onto the governments. From this perspective, the IFIs are imposing in different countries policy changes that are not supported by the national governments, but these national decision makers can’t do anything to stop the implementation of these policy changes.

Why International Financial Institutions can impose a reform not wanted by the national government? They have a large spectrum of methods they can use to influence the local decision makers, ranging from economic suggestions to sanctions they can impose. These methods are more efficient if the IFI’s are the creditors for the country in which they try to impose a policy change. International Monetary Fund and the World Bank were important creditors in transition countries. The level of indebtedness influences the way the International Financial Institution’s recommendation are treated. Whether these recommendations are adopted or disregarded in a certain state depends on the level of indebtedness of the country in cause (Stiglitz, 1998). Also, the conditions attached to loans from IFI’s are narrowing the range of policy models available to governments in the developing and transitional countries (Brooks, 2005). Rating agencies include radical pension reform as a point in favor in their country-risk assessments (Muller, 2008). The country-risk assessment
has a decisive influence on the access to international credit, and therefore can influence the state’s ability to cover short-term debt obligations.

The three pillar pension system was invented in Chile and entered into force in 1981. Still, the first countries in Eastern Europe who adopted this system have done it in the 1997, so after more than 15 years. The World Bank began to promote the multipillar system in 1994, the year when the famous book “Averting the Old Age Crisis” was published. This event was followed by other actions aimed to accelerate the growth of knowledge about reform processes, methods and outcomes: organizing conferences, publishing other books, sending pension officials from countries with unreformed pension systems to Chile, sending World Bank experts to those countries, in Hungary and Poland in particular, in the first phase (Orenstein, 2013, interview with Marian Sarbu, 2016). The involvement of the World Bank in promoting the reformed three pillar pension system happened 13 years after the world first pension privatization, that took place in Chile, but just 3 years before Hungary and Poland adopted this changes (Orenstein, 2013). This provides evidences that the International Financial Institutions are playing an important role in the pension privatization in Eastern Europe.

The demographic pressure

The expenditures related to pensions increased significantly in Europe after the Second World War, and the reason for this was the fact that the selection criteria for those financial benefits were met by a much higher percentage of citizens. In the middle of the last century, the retirement age has dropped, and the restrictions regarding the occupations which would have given the right for retirement benefits were cancelled; from that moment forward, any employee, regardless of his occupation, was entitled to pension. Retirement, as a universal new life stage, became fully institutionalized.

The new pension systems introduced after the Second World War in Europe had a long period of maturation. Therefore, their full financial impact would not be observed immediately, but only when the generations under these schemes started to retire. In the 1980’s pension crisis started to make its present felt. Expenditure in this area have doubled compared to the period after the Second World War, and continued to increase, peaking at 9% of GDP in countries like France and Germany, or 11% of GDP in Sweden. The percent of the total population over 65 years in Europe almost doubled in 1990 compared to the 1950’s (14.3% compared to 9.1%) and the predictions are that in 2020 this proportion will reach 20% and 27.6 in 2050 (Arza and Kohli, 2008). The pensions started to represent a risk for the sustainability of public finances and the competitiveness of national economies, but the demographic changes mentioned above are not solely responsible for this change of view, the principles of neoliberalism played a part as well. This economic theory is not about the retreat of the state, but about state’s role transformation in the social field: a shift from social protection to market-governed risk protection (Pulgar Pinaud, 2014; Datz and Dancsi 2013). Economic growth was no longer relying on public spending, but on productivity and international competitiveness. So, political attention began to shift to
pension reform and how to make the pension schemes financially sustainable for the future (Arza and Kohli, 2008).

**Short term cost of the reform**

Privatization means that a part of the contributions of current workers is diverted from public systems to private administered funds. This operation leaves an economic gap in the public system, a gap that needs to be covered. In Eastern European countries, the contribution are at a high level (35-45%) so increase them is not an option for the government, who needs to search for additional resources outside the pension system to cover this gap. If the gap is covered from the public budget, then the budget balance losses its equilibrium. Most of the countries in region are having problem with the budget balance, so an action that will jeopardize this equilibrium is not something the government can afford. Myles and Pierson (2001) are characterizing this problem as “an insurmountable barrier to privatization on the capitalization of existing public pension schemes”. Slovakia, for example, transferred a half of the contribution from public pension system to the mandatory private pillar – the largest pension privatization in the whole Europe (Armeanu, 2010). But this action left a big gap in the public budget. In fact, the gap was so big that Slovakia needed to sell the gas and electricity companies owned by the state, in order to cover it. So, the short term cost of the reform can influence the political decision regarding the pension privatization in a certain country.

**Political support**

In analyzing the steps made backwards by Poland and Hungary, the researchers have reached to a hypothesis related to the political configuration in all these countries. In all three states, the governments have reversed the pension privatization because they had political support. More specific, the governments who initiated these radical measures lacked a strong opposition in parliament (Datz and Dancsi, 2013). The actions taken by Orban government in Hungary, for example, prove that the assumption that “mandatory pension funds accounts would be better insulated from politics than the public system” is wrong (Datz and Dancsi, 2013, p.87). In a politico-institutional environment that lacks any blocking mechanism (like a strong majority in the parliament) pension reform or the reversal of pension privatization are determined by short-term considerations, such as debt repayment and budget deficit reduction (Datz and Dancsi, 2013). In order to attain those goals, the Orban government took other measures beside the pension privatization reversal; those measures were also sustained by the parliament: from 1st of January 2012 early retirement pensions were abolished, and the citizens receiving disability pensions were transferred to the National Health Insurance Fund (Stephan and Anderson, 2014). So, the political configuration of the parliament proved to be important in the reversal of pension privatization, and we can assume that it played a role even when the opposite measure was taken (pension privatization).
The standard measure for the party system fragmentation is The Effective Number of Parties proposed by Laasko and Taagepera (1979), a coefficient that takes into account both the number of parties, and their relative weights.

**Diffusion**

Unlike the political economy of pension reform, the diffusion theory argues that policy change occurs through the creation and dissemination of new ideas. Usually, those new ideas are not adopted before they are tested or implemented in the environments they were created. But sometimes, new ideas are taken without waiting for the results of the tests. From this point a view, an emergence of a crisis in only necessary, not sufficient for a policy change, the new ideas may come later than the crisis (Orenstein, 2003).

There is a pattern of diffusion (developed by Orenstein (2003)) whereby innovation is first adopted in the well developed states, and only later by those who are poorer. This is because the first one can experimentally adopt a new policy without risking an economic crisis if something goes wrong with the new policy. There is also a regionalized pattern of diffusion, meaning that several countries in the same region adopt the innovation in a short period of time. So, the less developed states adopt the innovation only after the bigger countries in the region implemented it. Later on, Weyland (2005) developed the model of diffusion, by keeping the regional pattern, giving up to the assumption that the innovation is first adopted by the bigger states in the region, and latter by the smaller ones. He also added an S-shaped temporal perspective of the diffusion wave.

**Objective and hypotheses**

The general objective of this research is to outline which factors determined the pension reform in Eastern Europe and Central Asia. More specifically, the current research focuses on the influence of internal and external factors on the decision to adopt a pension privatization policy in former communist countries in the region mentioned above.

The external pressure theory argues that governments are “pushed and supported in the drive for privatization of pension systems by large and internationally well connected business interests, particularly from the financial sectors and by IFIs” (Huber and Stephens, 2000, p.19). But the international indebtedness of a country increases the influence of international financial institutions over the government of that country, and IFIs can exert this pressure by loan conditionality (Muller, 1999). Therefore, we expect that the privatization of the public pension system to be more likely to occur in countries indebted to International Financial Institutions. That is the first hypothesis of this study.

The demographic pressure theory has put the ageing of the population in a central role. From this perspective, the ageing of population creates the financial unsustainability of public pension systems; therefore the governments need to take measures in order to keep this problem under control. We expect that the
privatization of public pension system will occur in countries with a higher degree of ageing population.

The transition from public pension system to private administered accounts implies bigger costs for the governments, and we can predict that only the countries that can afford those costs will reform their public pension systems. So, the pension privatization is less likely to occur in countries with a large budget deficit, because the costs related to privatization will add to the already existing public deficit.

Pension privatization is an unpopular measure, so a party that may implement it is under the risk to be punished by the population at the next election. But if the opposition is weak, a party that forms the government can take such a measure by risking less in the next electoral competition. So, in countries where the Effective Number of Parties is (or was) low we expect to have a pension reform in terms of privatization.

According to the diffusion theory, a policy change is adopted in a country because her neighbors adopted it. Therefore, if this theory is true, the prediction is that the probability for a decision to reform the public pension system by privatization increases as the proportion of peer nation that adopted the privatization increases.

Methodology

In order to test the five hypotheses, I used a cross-national empirical analysis for 24 post communist countries from Eastern Europe and Central Asia: Albania, Armenia, Azerbaijan, Belarus, Bulgaria, Croatia, Czech Republic, Estonia, Georgia, Hungary, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Poland, Romania, Russia, Slovakia, Slovenia, Tajikistan, Turkmenistan, Ukraine, Uzbekistan.

The quantitative methodology used for this cross-national analysis is the event history model with time varying covariates, and we choose the Cox model, because is more flexible than others, regarding the hazard rate. Cox model is a proportional model and we don’t know if each covariate “has a proportional and constant effect that is invariant to when in the process the values of the covariate changes” (Box-Steffensmeier and Jones, 1997, p. 1433). But we can still use the model assuming that the hypothetical proportionality exists and afterwards taking a test regarding the proportionality assumption (whether this assumption is verified or not) (Brostrom, 2012).

The variables included in the model as covariates are the following:

- **Inds**: the level of loans and credits received by a country from the International Bank for Reconstruction and Development and International Development Association as reported by the World Bank Databases (we used this variable as a nominal one, with 4 quartiles; data source: World Development Indicators 2015 database); this covariate was used to test the first hypothesis
- **Ageing**: the percent of population over 65 years as reported by the World Bank Databases (we use the World Development Indicators 2015 database); this covariate was used to test the second hypothesis.

- **BB**: the budget balance as reported by the World Bank Databases (we use the World Development Indicators 2015 database) this covariate was used to test the third hypothesis.

- **ENP**: the Effective Number of Parties as reported by the Gallagher (2015); in all the cases when the value of this coefficient was not available, we compute it as the inverse sum of the squared seat shares of each party (Laakso and Taagepera, 1979) this covariate was used to test the fourth hypothesis.

- **Wave**: the proportion of countries in the region that have adopted a mandatory private pension pillar.

The dependent variable was the implementation of a mandatory private pension pillar.

A country entered the dataset in the year of the third free election and dropped out once a private mandatory pension pillar was introduced. If a country did not reform the pension system by privatization (by introducing a mandatory private pillar), he “survived” in the dataset until the final year of observation, that means 2013.

For all the 24 countries in the study, the values for all covariates were observed, during the period in which a country was in the dataset (starting with the year of entering the dataset, and ending with the year of exiting the dataset, for each of the 24 countries analyzed). In the case of the dependent variable, a country receives the value “0” for each year in which it did not introduced a mandatory private pension pillar, and the value “1” for the year in which it privatized its pension system.

A similar methodology has been used by Brooks (2005) and Wilson Sokhey (2010). In all the computation I did, I used the R statistical package, and specifically the “eha” package, created for Event History Analysis (Brostrom, 2012).

**Results**

The results of the duration analysis using the Cox model are shown below, in table 1: Table1: Event History Analysis with time covariates – results.

<table>
<thead>
<tr>
<th>Covariate</th>
<th>Mean</th>
<th>Coef</th>
<th>Rel.Risk</th>
<th>S.E.</th>
<th>Wald p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inds</td>
<td>0.051</td>
<td>-16.306</td>
<td>0.000</td>
<td>12.209</td>
<td>0.176</td>
</tr>
<tr>
<td>BB</td>
<td>-4.087</td>
<td>0.017</td>
<td>1.017</td>
<td>0.048</td>
<td>0.717</td>
</tr>
<tr>
<td>ENP</td>
<td>3.437</td>
<td>0.166</td>
<td>1.181</td>
<td>0.229</td>
<td>0.457</td>
</tr>
<tr>
<td>Ageing</td>
<td>11.164</td>
<td>-0.003</td>
<td>0.997</td>
<td>0.127</td>
<td>0.975</td>
</tr>
<tr>
<td>Wave</td>
<td>0.250</td>
<td>2.056</td>
<td>17.391</td>
<td>1.236</td>
<td>0.026</td>
</tr>
</tbody>
</table>

We can see that only the “Wave” covariate has a significant effect (Wald p < 0.05). The Wald p value for “Inds” covariate is higher than 0.05, but rather close to this cutting point. The Budget Balance, The Effective Number of Parties and the percent of population over 65 years do not matter much, because the Wald p coefficient for “BB”,...
“ENP” and “Ageing” covariates has values that do not allow us to reject the null hypothesis.

We also checked the model proportionality assumption, and the results are presented below, in table 2:

Table 2: The Cox model’s proportionality assumption test

<table>
<thead>
<tr>
<th></th>
<th>rho</th>
<th>chisq</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inds</td>
<td>0.0772</td>
<td>0.0341</td>
<td>0.853</td>
</tr>
<tr>
<td>BB</td>
<td>-0.0144</td>
<td>0.0020</td>
<td>0.964</td>
</tr>
<tr>
<td>ENP</td>
<td>0.1782</td>
<td>0.3784</td>
<td>0.538</td>
</tr>
<tr>
<td>Ageing</td>
<td>0.1993</td>
<td>1.0099</td>
<td>0.315</td>
</tr>
<tr>
<td>Wave</td>
<td>0.1181</td>
<td>0.1372</td>
<td>0.711</td>
</tr>
<tr>
<td>GLOBAL</td>
<td>NA</td>
<td>2.1298</td>
<td>0.031</td>
</tr>
</tbody>
</table>

In order to test if the global null hypothesis that proportionality holds, we will look on the last line and the last row. The p value is 0.831 that means we cannot exclude the null hypothesis; this means the general model doesn’t have a problem with proportionality. If we look on the p values for each covariate, we can see that all of them are bigger than 0.05, meaning that none of the covariate used in the Cox model has proportionality issues. Therefore, we don’t need to categorize any of them, and we can rely on the results we computed using the Cox model.

Discussion

The results of our quantitative analysis show that the Budget Balance, The Effective Number of Parties and the percent of ageing population doesn’t play an important role in the political decision of pension privatization in former communist countries from Eastern Europe and Central Asia.

If the Budget Balance didn’t play an important role in the pension privatization process in a country, this means that the short term costs of the reform didn’t matter that much in the political decision for pension privatization. Recent studies have found that this might be the case in Central and Eastern Europe. The parliament or the government can take the decision (to reform the public pension system by privatization) based on inaccurate information, as it happened in Hungary, where “the risks for deterioration of the state’s budget and for increasing the country sovereign debt rate were not emphasized” in 1998, at the moment of pension privatization (Datz and Dancsi, 2013, p.88). The official were also overly optimistic about the performance of the private managed accounts, therefore the state introduced a guarantee saying that “if the private funds underperformed during the accumulation period and did not increase reasonably the value of their pension savings, the government would intervene to make sure that private savers would receive 25% of their retirement entitlements from the funds” (Datz and Dancsi, 2013, p.88).

So, in Hungary, the size and duration of transition costs were underestimated or ignored (Simonovits, 2011) but the responsibility for those costs was also transferred to the next parliament and next government, and the same thing happened in Poland (Boot and Niemitz, 2015). In Romania, the government dealt with the fact that the
transition deficit will be covered from the state budget (Interview with Marian Sârbu) even for transition costs to produce some financial pressures existed.

The Effective Number of Parties did not proved to be a covariate that would have a significant effect on the political decision to reform the public pension system. This means that the parliamentary support of the party who initiate the pension privatization is not very important. The Romanian reality seems to sustain this last assumption. Coalition, for example, can also implement reforms: in 2006, the center right coalition of PNL, PDL, UDMR and PC created the third pillar of pension system, and this measure came into force in a political environment characterized by fragmentation, with parties sharing almost the same share of seats (more or less). Parties with limited support in parliament can implement drastic reforms. This was the case when PDL did pass through Parliament the Unitary Pension Act, although it needed some deputies from another parties in order to obtain a fragile majority in the Deputies Chamber. Romania witnessed actions that did not fit the party ideology: in 2004, PSD created the second pillar of the pension system, but that policy change did not move the status quo closer the party ideal point (Barbu, 2015). And this happened because in Romania a consensus was created regarding the pension privatization, a consensus that was above the parties or ideologies (Interview with Marian Sârbu, 2016).

The percent of people aging population did not have a significant effect on the political decision of reforming the public pension system, although the demographic pressure was an important factor outlined by some officials not only from Eastern Europe, but from other regions as well (Weyland, 2006; Arza and Kohli, 2008, Hirose, 2011). But the sustainability of public pension systems is not influenced only by the percent of aging population, but also by the fertility rate. In fact, the predictions about the financial sustainability of public pension system are made in close connection with the fertility rate and the percent of ageing population (Hirose, 2011). Therefore, the fertility rate can influence the political decision about pension privatization, and also can moderate the effect that the percent of aging population has it on the initiative for reforming the public pension system by privatization. Recent studies suggest that not only the fertility rate affects the sustainability of public pension system, but also, the public pension system affects the fertility rate by removing the incentives to have children and by penalizing childbearing (Booth and Niemitz, 2015). The authors argue that “the growth of public pensions can explain as much as 50 percent of the decline in fertility rates in Europe and USA” (Both and Niemitz, 2015, p. 671).

The level of credits and loans taken by the governments from the International Bank for Reconstruction and Development and from the International Development Association had no significant effect over the decision to implement a privatization of the public pension system. But the level of external indebtedness of a country to the International Financial Institutions doesn’t always reflect the influence of the IFIs on the process of pension reform. In Latin America, Bolivia resisted to the World Bank pressures on crucial reform decisions, although she was an aid-dependent country. In the negotiations with the Bolivian government, the World Bank tried to impose a way to cover the transition cost of privatization, and pressured the local administration to
cover the gap with the funds resulted from the public enterprise privatization. But the Lozada administration (Gonzalo Sanchez de Lozada was the president of Bolivia at that time) resisted the pressures "by invoking Bolivia's national sovereignty – the country's right to make decisions as it pleased" (Weyland, 2006, p. 12). The Croatia's case reflects the other side of the coin: the indebtedness level of this state was low, but the influence of IFIs over the country decision in the field of pension privatization was high (Muller, 2008). This happened because under Franjo Tudjman the political isolation increased, therefore Croatia needed important financial allies.

From the fact that the “Wave” covariate has a Wald p value lower than 0.05, we can suppose that the number of peer countries that adopted a private pension system have an influence over the political decision to implement a mandatory private pension pillar. Therefore we might be able to accept the diffusion theory. If we look at the diffusion wave in Eastern Europe we can see that there are countries on a different level of economic development that did not adopt a private pension system, such as Czech Republic, Albania and Slovenia (7 countries out of 10 implemented a mandatory private pillar). Also the assumption that the innovation is first adopted by the well developed states in the region, and only latter in the smaller ones does not stand: the first countries who adopted a mandatory private pillar were Hungary and Poland, followed by Croatia; the most developed countries in the region, The Czech Republic and Slovenia, did not even implemented a mandatory private pension pillar. If we look only at the countries who did reform their public pension system by privatization, the assumptions is verified, because Hungary and Poland were more developed than the countries that followed them on this path. If we plot the diffusion wave, we can see that it has an S shaped temporal dimension, as shown in the figure below:

Figure 1: The temporal dimension of the diffusion Wave in Eastern Europe

If we look at the diffusion wave in the former communist countries in Central Asia, we can see that only 3 countries out of 11 reformed their private pension system by privatization. Kazakhstan, however, did reform the private system before Russia, although Russia was the wel developed country in the region, from the economic poin
of view. If we would have plot the diffusion wave we would have seen that it has an S shaped temporal dimension. But this observation would be irrelevant, considering the fact that only 3 countries implemented a mandatory private pillar.

**Direction for further research**

This research can be used as a starting point for studying the steps backwards made on the privatization path by Hungary and Poland (Argentina also made steps backwards on this road) – countries that reversed the pension reform by transferring the savings transferring savings under management by private pension funds back to the public sector (Datz and Dancsi, 2013). Also, the results of this paper can be compared with the one resulted from qualitative studies on this area of research, studies that may include interviews with former officials and decision makers from countries in Eastern Europe and Central Asia, with responsibilities in the pension privatization process.

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