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Pension Funds with Automatic Enrollment Schemes

Lessons for Emerging Economies

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Abstract

Since the introduction of the KiwiSaver scheme in New Zealand in 2006, several countries have implemented, or are in the process of implementing, voluntary funded pension systems with automatic enrollment features. Since most of the literature has focused on countries with the common law tradition, including the United Kingdom and the United States, this note analyzes cases of countries with the civil code tradition, including Turkey, Poland, the Russian Federation, Chile, Brazil, and the Province of Quebec in Canada. This sample includes mostly emerging economies, with reforms at different stages, from those that have already been completed to those that are about to start discussions in their parliaments. Although they are not a substitute for necessary parametric reforms, automatic enrollment schemes offer the possibility of improvements in future retirement income for a significant part of the labor force. This note stresses that the paternalistic approach of automatic enrollment schemes imposes a great degree of responsibility on governments and requires careful consideration of the design of the system, including the industrial organization of the pension fund industry and default investment strategies. Sufficient time and resources for preparing communication and educational campaigns has played a key role in achieving high rates of participation.

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Pension Funds with Automatic Enrollment Schemes: Lessons for Emerging Economies

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I. Introduction

Voluntary pension funds with automatic enrollment schemes (AES) are expected to generate retirement savings to complement future pensions. AES are voluntary pension schemes for employees where individuals are automatically enrolled to a pension fund scheme, unless they decide to opt out. AES are effective vehicles for increasing coverage and improving future "replacement rates"—that is, a stream of retirement income expected to be a substantial fraction of the average income earned before retirement.[2] However, AES are not aimed at replacing social security schemes, but at complementing future retirement income, and thus avoiding drastic falls in consumption after retirement.

However, AES are not a panacea. Since they can only start from modest contribution rates and should involve long transitions and careful portfolio management, AES are not a silver bullet to the problems of coverage and adequacy of pensions. In the context of aging population, stressed social security schemes, and low interest rates, AES can create additional retirement income to complement other pension pillars. Integral solutions in countries with social security systems typically require parametric changes, including increases in retirement age, price indexation of benefits, and accrual rates for cumulation of pension benefits consistent with fiscal sustainability.

Moving forward from more documented cases of AES in common law countries (the United Kingdom, the United States and New Zealand), this note explores the implementation process of AES in some civil code countries (Brazil, Chile, Poland, the Russian Federation, and Turkey), and the Province of Quebec in Canada, and provides lessons for emerging economies.[3] While the implementation process has been completed in some of these cases (Brazil, Chile, Poland, Quebec Province and Turkey), in others they are draft laws that require further approval by the legislative branches (the Russian Federation). The sample of countries includes cases that apply to all employees (Quebec Province, Poland, the Russian Federation and Turkey), while in others it applies to specific sectors, as in the case of Chile (self-employed) and Brazil (civil servants of the federal government).

This note stresses the importance of sound public policies supporting the AES, both in the design as well as in the default options being offered. While occupational pension schemes in some Northern European countries with strong pension fund cultures allow high degrees of freedom for selecting investment options, these systems tend to rely heavily on strong governance of their institutions, including professional management and active participation of social partners.[4] Such models cannot be easily replicable in open pension schemes of civil code countries, with limited involvement of social partners. Leaving to the market to decide the best options for employees might end up affecting the most vulnerable population, including the poor and the ones with less financial literacy.

Sound public policies, based on clear default options, can provide an alternative model that also provides protection to future retirees. Offsetting the lack of involvement of social partners requires the design of public policies with welfare improving automatic (default) options for each of the questions that need to be addressed for the implementation of a voluntary pension system: should individuals contribute or not? what should be the industrial organization of the pension fund system

[2] The ILO has suggested that an "adequate" replacement rate should be at least 40 percent.
[3] Rudolph (2016) provides an analysis of the experiences of the United States, the United Kingdom and New Zealand, among others.
[4] Social partners are groups that cooperate in working relationships to achieve a mutually agreed upon goal, including employers, employees, trade unions, and government.

that suits the best the needs of future retirees? Who should manage the pension fund account of individuals? what should be the default investment portfolio for individuals? How should pension benefits be paid after retirement?

Since AES assumes a more paternalistic role in the provision of pension accumulation services, pension fund policies should be properly coordinated and provide closed solutions to each of the questions. While in the traditional pension schemes public policies expect the market to provide solutions to most of the questions, the AES approach brings an additional degree of paternalism, by guiding contributors toward optimal solutions. Since the credibility of public policies is at stake, expecting the invisible hand to provide cost effective solutions might not be always the best alternative. Replicating the traditional structures of mandatory funded systems (second pillars) might not be optimal for AES schemes. AES have the opportunity to build efficient market structures, that may address some of the problems found in mandatory funded schemes, including high fees, inefficient portfolio allocations, and wasteful competition.

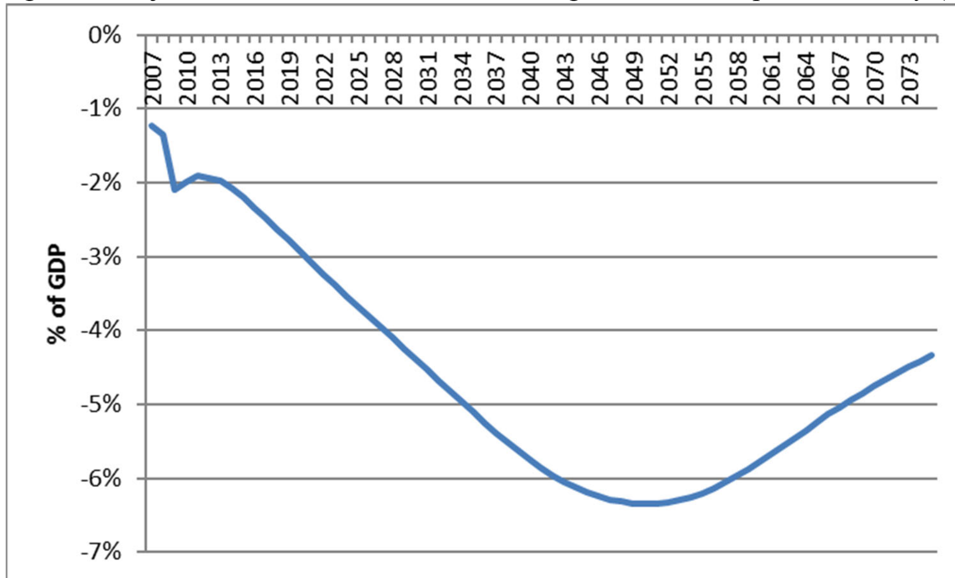
The efficiency in the design needs to be accompanied by proper educational and communication campaigns. Achieving low opt out rates is essential for creating a solid base for the pension fund system. Due to behavioral factors, creating a dynamic for high participation requires gradualism, thus the initial contribution rates set in AES schemes are expected to be low. While the system may include escalating contribution rates, it is essential to offer an efficient platform to contributors, both in terms of services and investments, which should be supported by educational and communication campaigns that target the needs of different segments of the population.

This note is organized as follows. The next section provides an overview of the problems faced by pension systems in Latin America and Central and Eastern Europe. Section III analyzes the experiences with AES of Turkey, Poland, the Russian Federation, Quebec Province (Canada), Chile and Brazil and extracts some lessons from each of the cases. The last section provides more general lessons for emerging economies.

II. Challenges of the pension systems in Latin America and Central and Eastern Europe

Population aging is a serious fiscal threat in most of the Central and Eastern European countries. The combination of increases in life expectancy, persistently low fertility rates and significant migration to the west has created significant fiscal vulnerability in most of the Central European countries. As Schwarz and others (2014) point out, the age structure has changed from a traditional pyramid toward a column. In some countries with especially low fertility rate and outmigration, it has started to resemble an inverted pyramid. The aging of the population will be putting significant pressure on fiscal accounts, as shown in Figure 1.

Figure 1. Projected Pension Deficits in an Average Central European Economy (2007-2077)

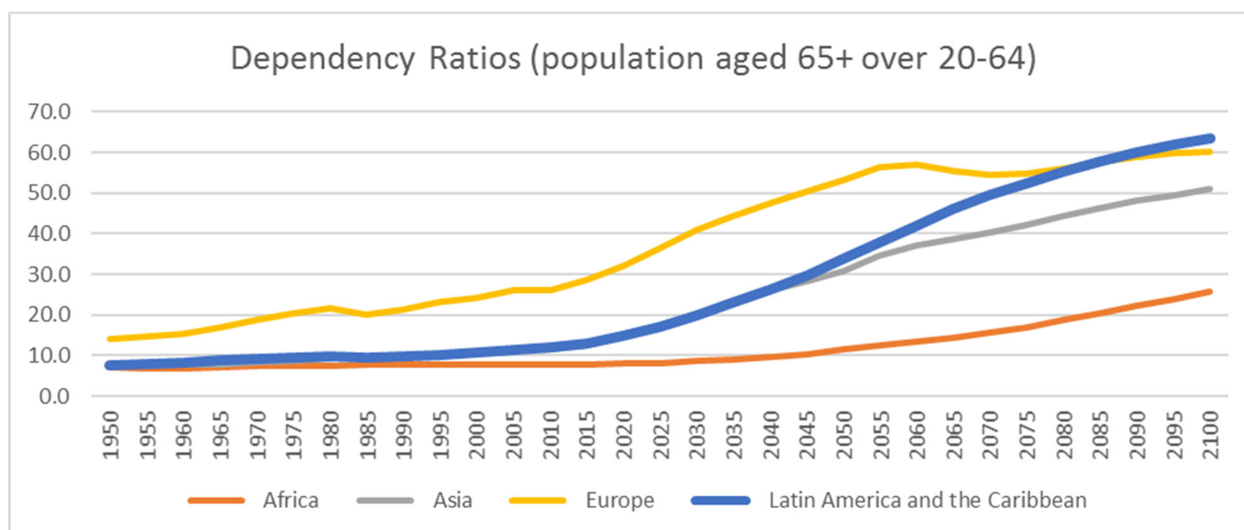


Source: Schwarz and others (2014)

While Latin America has a younger population, the population is aging at rates with no precedents in the history of humankind. As shown in Figure 2, Latin America will suffer an accelerated aging of the population in the coming decades. For example, while it took France more than 100 years for the population 60+ to move from 10 to 20 percent of the population, in Brazil it will take only 25 years (2010-2035.) These demographic shifts, combined with modest global growth in the aftermath of financial crisis, have accelerated pressures for pension reform. However, established precedents of pension reform in Latin America warn that current systems will likely struggle to adjust at the required pace. Moreover, current pension system designs, even with reformed parameters and improved efficiency, might be inadequate for the structurally different older societies of the future.[5]

[5] See de la Torre and Rudolph (2018).

Figure 2. Dependency Ratios (population aged 65+ over 20-64)



Source: WHO

Increasing the role of second pillars can only be done through additional increases in contribution rates, but not as a substitute for lower social security contributions. Since the transition costs of second pillars were largely debt financed in most of the CEE countries (Schwartz and others, 2014; Bielawska, Chłoń-Domińczak, and Stańko, 2015), the possibility of increasing contribution rates of second pillars by reducing first pillar contributions seems limited. In the case of Latin America, with lower coverage of the population, increases in mandatory contribution rates might turn more people to the informal sector.

Drastic increases in employers' contributions would be challenging. Since it is politically challenging to increase employers' contributions, and this has effects on the competitiveness of the economy against the rest of the world, most of the CEE countries may have a limited space for doing so. Still, increases in contribution rates in the range of 1 to 3 percent might be possible, while insufficient to ensure adequate replacement rates. Consequently, most of the contribution increases would need to come from employees.

Voluntary funded schemes provide a good opportunity, but they need to be able to have enough coverage. While setting default options properly may help to engage contributors, maintaining individuals in the system until retirement requires a persuasive strategy of communication.

III. Country cases

This section analyzes the recent experience of Turkey, Poland, the Russian Federation, Quebec Province (Canada), Chile and Brazil and provides specific lessons of each of the cases.

a. The case of Turkey

Main features (BES)

Turkey has one of the most generous social security systems among OECD countries. Despite having a relatively young population, pension expenditures reached above 7.2 percent of GDP in 2013-2015 and are likely to grow more in the future,[6] of which more than half of the financing comes from the state budget. These deficits are reached despite the 20 percent contribution to the social security (for pension purposes), of which 11 percent and 9 percent come from the employer and employee, respectively. In addition, household savings as a percentage of disposable income are relatively low, reaching only 6 percent in 2016.

The introduction of AES was not proposed as a substitute for parametric reforms. While there is broad consensus that addressing the growing pension expenditures would require a parametric reform of the social security system, the government has prioritized other areas. However, considering that a savings component would be needed in any pension reform scenario, in 2016 the government proposed the creation of a voluntary funded pension scheme for employees with automatic enrollment features. The creation of the AES would allow employees to diversify their source of retirement income. It is important to notice that Turkey follows a civil code tradition, which is modeled after the Swiss civil code.

AES was implemented in a period of political turbulence. A month after the 2016 coup d'état attempt, on August 25, Turkey enacted legislation that creates an AES for employees (BES). The law requires employers to enroll all employees under the age of 45 in private pension plans, but employees have an opt out option. The provisions entered into force on January 1, 2017 but the law included a longer transition for companies with smaller number of employees, according to the calendar set on Table 1 below. At the time of full implementation (January 2019), all companies with more than 5 employees will be required to offer a voluntary pension plan to their employees.

Table 1. Turkey: Calendar of implementation of the automatic enrollment scheme

Number of Employees by company	Date of implementation
1000+	January-2017
250-999	April-2017
100-249	July-2017
50-99	January-2018
10-49	July-2018
5-9	January-2019

Source: Ministry of Treasury and Finance of Turkey

Although employers are required to enroll their employees, employees have a right to opt-out on the contract within two months after they are informed that they are participating in the private pension plan. The system was designed only with contributions from employees and the government. The default option is a 3 percent contribution rate from employees, with 25 percent of the employee's contribution matched by the government, with a cap.[7] The prompt payment of contributions is a

[6] See OECD (2017).

[7] Employees can freely contribute more to this pension fund scheme.

responsibility of the employers.[8] While employers selected the pension fund management companies, employers are not required to contribute to the pension system. In addition, the government also offers a welcoming bonus of TL 1,000 for those who decide to remain with the BES.[9]

The system allows early withdrawal options. According to the law, employees who are enrolled in the private pension plan will qualify to receive their pension at the age of 56, provided they have been in the system for at least 10 years. However, individuals can withdraw their money, including the government matching funds, provided that the money stays in the system for at least 10 years, independently of the age of the contributor.

The new AES is based on the existing infrastructure of the pension fund management industry. The financial infrastructure for the provision of the pension system was based on the existing voluntary pension fund scheme (originally on an opt-in basis) with approximately 19 providers. The existing industry, based on open pension fund management companies focused largely on pension fund management services for the high end, and charged on average, high fees. By the time of the reform, and after several reductions, the overall fees were in the range of 1.7 percent of the assets under management (AUM).[10] With this background the regulation adopted a cap on fees of 0.85 percent of the AUM for the companies participating in the automatic enrollment scheme. In terms of investments, the system offers a restricted set of investment options, with five different options.

The system includes some costly duplication of services, for example through *Taksabank*, which acts as an account manager and offers a pension account linked to a national identity card. Although these are positive features, they simply replicate other operations carried out by pension fund management companies.

Preliminary results and comments

The implementation of the system has resulted in high opt out rates. Compared to the cases of the United States, the United Kingdom and New Zealand, opt out rates in Turkey's AES have been very high. According to unofficial information,[11] as of February 2018 almost 61 percent of the employees exercised their right to opt out. These figures are aligned with official older ones, that accounted similar opt out rates. As of August 2017, opt out rates for private and public-sector employees have been 60 and 45 percent respectively.[12]

While most of the local discussion for the high opt out rates has been about the lack of contribution from employers, other explanations should also be considered, including the lack of time for enacting regulations; motivation for additional savings in the presence of high replacement rates offered by the social security scheme; and the lack of time to prepare well targeted educational and communication campaigns.

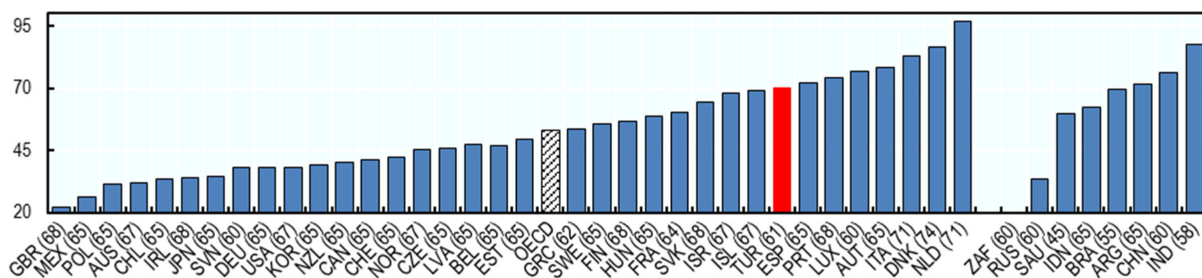
Tight schedules played against the capacity to communicate properly the objectives of the reform. With less than five months between the time that the law was enacted and the time that the first group

[8] The act also sets forth an administrative fine of TL 100 for each violation by the employer of the obligations imposed by the law.
[9] TL 1,000 is approximately USD 170 (as of August 24, 2018).
[10] While still high, the 1.7 percent in 2016, compares favorably to the 2.5 percent average management fee in 2013.
[11] See "Turkey: Proposed Amendments to Automatic Enrolment in Private Pension Plans System," March 2018 at http://www.mondaq.com/turkey/x/687354/retirement+superannuation+plans+pensions+schemes/Proposed+amendments+to+automatic+enrolment+in+private+pension+plans+system
[12] See http://www.kariyer.net/ik-blog/bireysel-emeklilik-zorunlu-hale-mi-geliyor/

of companies had to enroll their employees, there was not sufficient time to prepare regulations, put in place the supervisory framework, and prepare participants for the conditional consent to stay in the system.[13] All of this in the context of political turbulence in the aftermath of the coup d'état attempt and its effects on several government agencies. Communication campaigns, while almost inexistent, were unable to pass the messages to different groups of the population.

While generous, the social security system needs parametric reforms. While it has the lowest retirement age among OECD countries, Turkey's pension system offers a replacement rate that is 17 basis points above the average replacement rate for the average earner among OECD countries, as shown in Figure 3. In other words, in an already generous first pillar pension system, it is not evident that individuals want to use part of their income for retirement savings, whenever they feel their future retirement income is adequate and secure. The lack of sustainability of the pensions from the social security was a message probably not well understood for those who opted out from the BES.

Figure 3 Gross Pension Replacement Rates in OECD countries



Source: Pensions at a Glance 2017

Reverting the negative sentiment toward the AES might be cumbersome. While the government is preparing some amendments to the law in order to revert the high opt out rates, including increases in the matching portion from the government (from 25 to 30 percent) and lengthening the time for opting out (from two to six months), there are already organized groups that have taken strong positions against the AES.

Lessons for other countries

Enough time between the enactment of the law and the implementation of the system should be given to design efficient platforms for providing pension fund management services. The short timeframe for implementation has been a significant obstacle for designing more efficient structures aimed at offering lower costs and ensuring better asset allocations. The existent institutions that offered voluntary funded schemes were selected as fund managers for the new AES scheme. While there was a significant fee reduction from 170 to 85 basis points of the AUM, this figure is still high by international standards. As the IMF (2017) points out, there is a missing opportunity for making the

[13] As documented by Rinaldi (2010), tight schedules for implementation, among other factors, were also behind the high opt-out rates in the case of Italy.

system more efficient through separation of account management from portfolio management functions. This unbundled model could bring a more efficient use of scale economies.

AES should be only offered for retirement purposes. The possibility of withdrawing funds, including the matching contributions, after 10 years is a significant weakness of the Turkish AES, as individuals are likely to leave only a fraction for retirement income. As shown by Beshears and others (2018) the possibility of early withdrawals tend to be used by individuals, consequently, it is very likely that individuals will use the system as a way of medium-term savings taking advantage of the tax advantages and matching contributions from the government, with little impact on future retirement income. The possibility of early withdrawals does not help in ensuring consumption smoothing. It creates a misallocation of taxpayers' money, as instead of using the matching contributions from the state for receiving retirement income, it might be used to replace the car every decade.

There is nothing like making a good first impression. As a reaction to the high opt out rates, in the past few months the Turkish government has been trying to enact regulations to change the trend of high opt out rates. While it is still possible to bring back some of those *opt-out* individuals, it will be costly, and will take time. It will be costly because it will require more sophisticated educational and communication campaigns, and may even include (hopefully not) support from sales force. Consequently, giving enough time to prepare regulations, put in place the supervisory framework and prepare proper educational and communication campaigns may create the conditions for low opt out rates in the future.

b. The case of Poland

Poland was one of the early adopters of mandatory funded schemes. In 1999, Poland was one of the first countries in Europe in adopting a mandatory funded pension scheme. The design of the system followed an open pension scheme, similar to the one implemented in Chile in 1981, with specialized institutions that offer pension fund management services to employees. These institutions compete for clients, and employees are allowed to move their funds among pension fund managers over time.

The mandatory funded scheme created a transitional deficit, which was largely debt financed. The 1999 reform split the 19.52 percent contribution rate from the social security system, of which 12.22 and 7.3 were allocated to the Social Security Agency (ZUS) and individual accounts, respectively. As part of the contributions started to be channeled to individual accounts, the social security deficit increased, and successive governments financed this transition deficit largely via public debt (see Bielawska, Chłoń-Domińczak, Stańko. 2015, and Schwarz and others, 2014).[14]

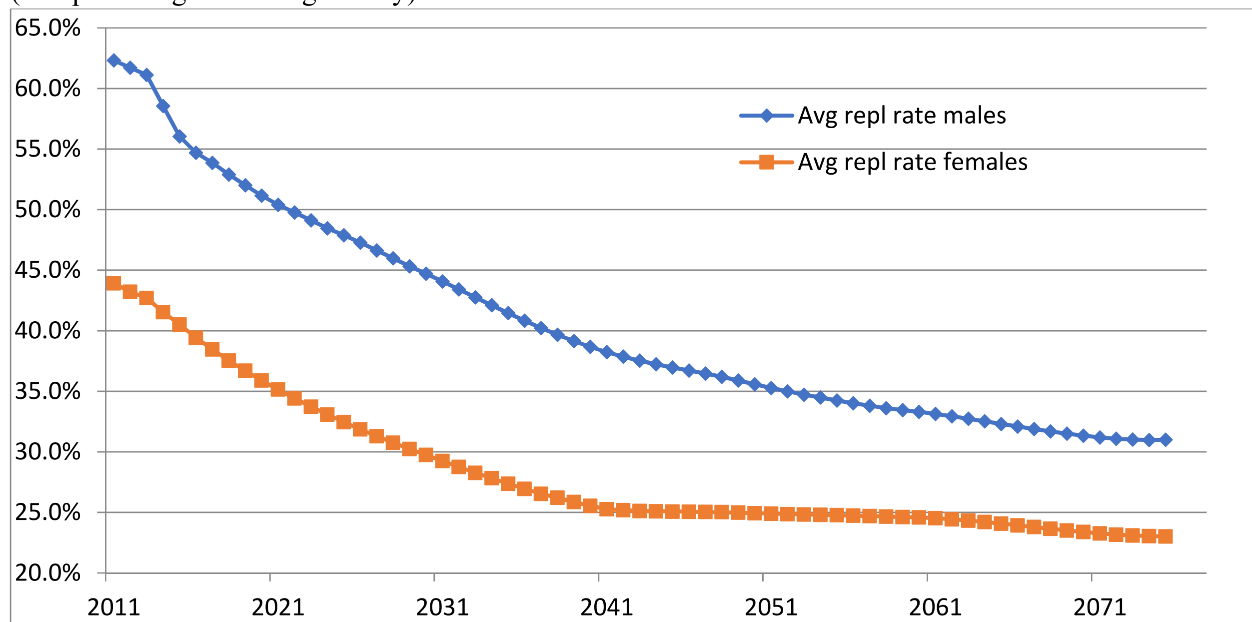
The government debt levels reached after the transition triggered the beginning of the unwinding of the mandatory funded scheme. In the aftermath of the financial crisis, the government saw its government debt level ratio close to the upper constitutional limit (of 55 percent of GDP) and in 2013 decided to swap all the Polish government debt in the second pillar pension portfolios of the pension funds for an implicit recognition in the social security system. The swap allowed the government to reduce its debt by approximately 17 percentage points of GDP, and thus alleviate fiscal constraints to expansionary fiscal policies. Subsequently, a court stated that the second pillar was simply a way of building reserves for social security, which changed completely the logic used by the industry to offer

[14] Although at the time of the reform the government planned to finance the transitional deficit with resources from privatizations, these revenues were used for other purposes.

their pension fund management services, as the concept of individual accounts became meaningless. Contribution rates to the second pillar were further reduced, and there have been several political attempts to completely dismantle the second pillar.

The expectation of decreasing replacement rates has helped to create consensus about the need of building savings for retirement. However, the expected gradual fall in replacement rates in the future, as shown in Figure 4, is triggering the need for adopting policy options, with limited fiscal support, that can help to improve retirement income in the future. In the presence of a Social Security scheme based on notional defined contributions, in the case of women replacement rates are expected to fall from almost 45 percent to levels below 25 percent by 2040.

Figure 4. Poland: projected replacement rates[1]
(as a percentage of average salary)



[1] Projections after the 2011 adjustments in contribution rates.
Source: World Bank (2012)

Main features (PKK)

In November 2018, the government enacted a law that creates an AES for all employees or an Employee Capital Plan (*Pracownicze Plany Kapitałowe* – PPK). The law includes contributions from the employers, employees and the government. From the tax perspective, contributions are taxed, interest earned exempted and withdrawals exempted (TEE), which is along the best practices for avoiding distortions on savings decisions. Employers are required to enroll all employees with age below 55, but older employees may decide to opt in. The system applies to all companies (at least a single employee), but there is a gradual process for complying with the law, according to the number of employees of the company, as shown in Table 2.

Table 2. Poland: Calendar of implementation of the automatic enrollment scheme[a]

Number of employees	Date of Implementation
250+	July 2019
50-249	January 2020
20-49	July 2020
Other (including Public Sector)	January 2021

[a] This calendar includes a six-month postponement compared to the original proposal, in order to reflect the latest expectation concerning the approval of the Law.

The AES includes contributions from employers, employees and the government. The law requires employers to enroll in the PPK eligible employees with a basic contribution rate of 1.5 percent of their wages (which can be increased up to 2.5 percent). While employees can decide to opt-out from the system, they are automatically enrolled with a contribution rate of 2 percent of wages. Employees may also increase their contribution rate another two percentage points.[15] The state, with the funding of the Labor Fund, will provide a welcome package of PLN 250 to each participant (for the years 2019 and 2020) and an annual contribution of PLN 240. The annual contribution by the government can be changed by regulation.

The PPK builds on the infrastructure of the second pillar. The AES pension fund system would be managed by a revised version of the pension fund management companies that manage the second pillar, and the government is considering other intermediaries, including life insurance companies. Instead of using the platform of collection of contributions that is used for the social security system and the second pillar, intermediaries may have parallel channels. Intermediaries will be allowed to charge up to 50 basis points of the assets under management (AUM) and 10 basis points as a success fee of the AUM, provided that they surpass certain rate-of-return objectives. The Polish Development Fund (PFR), a state-owned institution, will act as a default provider, in case some companies do not register their employees. In addition, the PFR will act as an account manager of the overall PPK scheme.

Pension fund intermediaries are required to offer an investment default portfolio. In terms of investments, intermediaries are required to offer target date funds as default options.[16] The proposal suggests a portfolio benchmark of target date funds for the whole industry. With the exception of the limit for investments abroad (30 percent of the AUM), the PPK Law does not include other investment restrictions.

The payout phase does not offer coverage against longevity risk. Regarding the payout phase, at age 60 individuals will be able to withdraw up to 25 percent of savings in a single payment, and the rest will be paid out in 120 monthly installments. Annuities will not be mandatory. While money will only be allowed to be withdrawn after retirement, under exceptional circumstances (qualified illness) individuals will be allowed to withdraw the money from the pension fund.

[15] Employees' contribution can be lower than 2 percent (but not less than 0.5 percent) for those employees whose income is lower than the equivalent of 1.2 times the Polish minimum wage in a given month.

[16] Target date funds are a type of lifecycle fund that aims to optimize the pension amount by the time of retirement, through changes in pension portfolios as cohorts age over time. Target date funds are typically named for the cohort approximate retirement age, for example, Fund-2040 is for cohorts that may retire between years 2036 and 2045.

For implementation, the law offers a gap period of only seven months between approval of the law and implementation of the system.

Preliminary lessons

The timing of the AES reform is essential. The recently enacted PPK Law is timely and addresses the future demand for better pensions that is likely to come in the next decades. Not only the demographic problems in Poland are similar to other countries in the region, but the capacity of the social security systems to offer adequate pensions. The generation that is currently in their early 40s will be able to harvest some benefits in terms of better replacement rates, when they retire. It is also timely from the economic cycle perspective, as the Polish economy is close to full employment, characterized by strong wage growth and consequently willingness from employers to make additional contributions. The introduction of AES is especially relevant for those countries that in the aftermath of the financial crises downsized the role of the funded pension schemes.

Lifecycle portfolios are a proper investment default option, especially if it is decided to use a common portfolio benchmark. The default investment strategy based on lifecycle funds also puts individuals on the right path and the possibility of a common portfolio benchmark for these strategies is also a strong point of the PPK. It is essential to bring contributors into investment strategies that are optimal from the expected pensions perspective. Since at some point in the future, the investment limit abroad may become a binding constraint.

There is potential in involving a government institution in the asset management, but its role needs to be properly crafted. The idea of having a state financial institution (PFR in Poland) as a default provider is an interesting idea to explore further, especially if the institution is going to add value compared to a private sector asset management company. In the case of Poland, PFR has a mandate to develop the domestic capital market. The involvement of government agencies in the management of pension funds, while quite successful in the case of the United Kingdom (Nest), requires high standards of governance and capacity to act under an arm's length principle,[17] in order to ensure that the institution does not have conflicts of interest with other government objectives. The challenge is to justify the presence of the state financial institution in terms of the need of addressing a market failure. In addition, it is essential to ensure that the state financial institution is subject to the same regulations and supervision as the rest of the pension fund services providers.

It is important to be mindful about the time for implementing the reform. The Polish government has a seven-month period for implementation after the approval of the law. This is a relatively short timeframe, and unlikely to give enough time for enacting regulations, licensing institutions and preparing communication and educational campaigns. With a seven-month period between the enactment of the law and registration of companies, there is limited time considering institutional changes that can improve the efficiency of the system. While fees will be capped in the case of Poland, a substantial expenditure of resources in marketing campaigns is expected to attract companies to pension fund providers. Contrary to educational and communication campaigns aimed at engaging individuals with their future pensions, campaigns organized by the industry are likely to be directed to signing contracts with larger companies. All of this in addition to the operational risks for a quick implementation of a new pension scheme. Short periods for implementing reforms seem

[17] The arm's length principle is the condition or the fact that the parties to a transaction are independent and on an equal footing. The concept of an arm's length transaction assures that both parties in the deal are acting in their own self-interest and are not subject to any pressure or duress from the other party.

to be a common factor in countries whose AES have resulted in high opt out rates, including Turkey and Italy.

The discussion about the use of the platform of the Social Security System for collecting contributions offers interesting policy discussion. In terms of the collection channels, the Polish government chose to stay away from the platform that collects contributions for the second pillar, run by the social security scheme (ZUS). While creating a parallel structure for collecting contributions and paying benefits might be more expensive, the government argued that the separation was needed in order to ringfence the PPK from the perception that the money in the accounts may end up in the social security scheme (as happened with the second pillar). However, creating parallel collection structures does not help in maintaining efficiency. Other countries in similar situations may consider options such as turning the IT system of the Social Security System into a separate company that supports services that can offer IT solutions to public and private sector companies. This new company would compete along private companies on the IT platforms for funded pension systems.

c. The case of the Russian Federation

The Russian Federation has a multipillar pension system. The Russian Federation has a three-pillar system: social security, a mandatory funded scheme (second pillar) and a voluntary funded pension scheme (third pillar). The social security system operates under a points system, and the second pillar has a coverage of approximately 40 percent of the labor force. Pressured by the aging of the population and its impact on pension payments, since 2015 the government has frozen contributions to the second pillar, and these resources have been transferred to finance the social security deficits. While in theory the second pillar still exists, in practice is unlikely to start getting contributions in the near future.

In October 2018, the government enacted a significant parametric reform that helps in rebalancing the growing deficits of the social security system. The reform increases retirement ages from age 55 to 60 for women, and from 60 to 65 for men. These increases in retirement age are significant, considering that life expectancy at age 65 in the Russian Federation (17.61 and 13.08 years for women and men respectively) is lower than in the average OECD country (21.28 and 18.17 years for women and men respectively).[18]

In parallel, the government is analyzing the possibility of creating an AES. The government is also analyzing a proposal for creating a voluntary pension scheme, with automatic enrollment features, that will help to complement the declining social security pensions in the future to be paid by the Pension Fund of Russia.

The Proposal (IPC)

The AES proposal, largely financed by employees, includes automatic increases in contribution rates over the years. In 2017, the Ministry of Finance and the Central Bank presented the concept for a voluntary pension scheme with automatic enrollment and automatic escalation features, named Individual Pension Capital (IPC). Employees' contribution rates will increase from 0 percent to 6 percent over a period of six years, but individuals can fix them at any level. The government will

[18] See OECD (2017).

provide a matching contribution, and there will be no mandatory contribution from employers. Individuals will have the opportunity to opt out at any time.

The IPC creates the figure of a central administrator, chosen by the Central Bank of Russia, which will perform account management functions including

a. Allocation of new contributors among pension fund management companies (those with existing accounts will remain with their pension fund manager)
b. Contact with employers about contribution rates of their employees
c. Collection of contributions
d. Customer services for employers and employees
e. Bookkeeping of individual accounts.

The IPC includes a payout phase that protects individuals against longevity risk, and offers some liquidity facilities. Individuals may only withdraw the funds after retirement age, but in cases of severe illness, individuals will be allowed to withdraw funds, without paying any taxes or fees. Individuals may also be allowed to make partial withdrawals at any point in time in cases of emergency, including house repairs, illness of relatives, or unemployment. In these cases, withdrawals will be subject to income tax. The payout phase has different products, depending on the size of the funds. While small funds may take lump sums or term annuities, medium and larger savings may take lifetime annuities, but over certain limits, individuals may take other options.

Pension fund management companies will offer a nominal zero return guarantee in a five-year horizon. This protects the nominal value of contributions (excluding additional returns). This feature is also present in the mandatory funded scheme.

Preliminary lessons

The introduction of IPC is timely and necessary. It is timely because it addresses the rapid aging of the population and necessary because it will avoid rapid deterioration of replacement rates for future generations, in the context of a scheme of Notional Defined Contribution.

The IPC presents various innovative features that can be highlighted. The automatic escalation feature is one of them: it creates a gradual process for increasing contribution rates over time, which makes it easier to swallow for contributors especially in an economy with inflation rates in the range of 4 percent per year. The gradual approach for escalating contribution rates creates an effective opportunity for reaching 6 percent contribution rates, within a six-year period.[19]

The Central Administrator adds important value to the pension system as it will facilitate the management of the accounts. An important feature is the fact that employees will be allocated automatically among pension fund management companies, thus avoiding costly marketing campaigns by pension providers for bringing new clients (an issue that raised fees unreasonably in other jurisdictions).[20] Instead of passing the responsibility of selecting an asset manager to the employer, the IPC relies more on the reliability of the pension fund management companies. While

[19] Automatic escalation was initially proposed by Nobel laureate Richard Thaler in 2004 (Benartzi and Thaler, 2004).
[20] While some excessive marketing expenditures still may happen for switching contributors, by maintaining the fees low it will be possible to avoid excessive expenditures.

this feature avoids some unnecessary expenditures, it needs to be anchored to a benchmark portfolio and to high quality pension fund management companies.

The explicit design of a payout phase includes the provision of annuities as the way to pay benefits to contributors. The payout phase is typically an issue that is not considered in other regulations, and is fundamental for the objective of reaching consumption smoothing. By pooling the assets among contributors, annuities provide adequate financial solutions that provide coverage against longevity risk of individuals.

The free entry of pension fund managers to participate in the industry is functional for some (but not all) governance issues. In order to avoid possible abuses involving public agencies—for example in granting licensees to asset managers--the design of the IPC includes free entry for pension fund management companies. Despite free entry, the government expects to have a limited number of qualified pension fund management companies participating in the system. A model with limited licensed pension fund managers may work better in countries with better institutional capacity of public sector institutions.

The provision of a five-year guarantee, while suboptimal, might still be needed in order to create confidence among the population. The five-year nominal guarantee on the contributions should be understood within the context of an economy with low level of financial literacy, and where contributors are largely unwilling to take market risks. While these guarantees might create incentives for suboptimal investment strategies by pension fund managers, it might be a reasonable option for creating trust among the population during a transition period. As the system matures, it would be desirable to gradually lengthen of the period for the guarantee from five years to a guarantee that only triggers at retirement age. Offering a guarantee on the nominal value of contributions at retirement age (when most needed) will be less expensive and reduce the distortions in asset allocation.

d. The case of Quebec, Province of Canada

Main Features (VRSP)

An AES was introduced in Quebec to increase coverage of complementary pensions. As a way of increasing coverage among private sector workers, in 2014 the Province of Quebec approved legislation for the creation of a voluntary funded scheme with automatic enrollment features (Voluntary Retirement Savings Plans, VRSP).[21] This makes it mandatory for Quebec employers with five or more eligible employees to offer a VRSP to employees who do not currently have the opportunity to contribute to a registered retirement savings plan or tax-free savings account through payroll deduction, and are not members of a registered pension plan provided by their employer.

According to the law, all companies with more than five employees will have to offer a collective plan to their employees. The program was implemented gradually, starting with companies with more than 20 employees (January 1, 2016); 10 to 19 employees (June 2017), and 5 or more by January 2018.

Employers are required to choose a VRSP provider (i.e. a licensed financial institution), enroll their employees and remit contributions. Providers of the VRSP plans are insurance companies that are authorized to sell annuities. In the VRSP plan, employees are automatically enrolled in the plan

[21] RVER is the French language equivalent.

chosen by their employer, but they can opt out within 60 days of the notice of membership. Although employers do not make contributions, employees will contribute with increasing rates, as shown in Table 3.

Table 3. Quebec: Calendar of increases in contribution rates

Contribution rate (% gross salary)	Period
2%	July 2014-December 2017
3%	January 2018-December 2018
4%	After January 2019

Source: Reitraite Quebec

Employees have access to liquidity of their contributions to the pension fund. Any employer contributions to a VRSP will be locked in but employee contributions will not be locked-in. Employees may not withdraw employer contributions except in certain situations which include shortened life expectancy, mental or physical disability, or non-residency. Upon termination, employees are entitled to the full value of their contributions, the employer's contributions and all investment earnings. The locked-in portion of the member's account may be transferred to a pension plan determined by regulation and chosen by them.

In principle, lump sums are not allowed in the payout phase. In terms of the payout phase, at age 55 contributors have the option to transfer their locked-in VRSP account to a pension plan determined by regulation and chosen by the member. Retirement income must begin no later than the end of the year in which the member turns 71.

Pension fund providers are required to offer a default investment option, which is based on a lifecycle approach. The providers are also required to offer from three to five additional investment options. Providers can charge fees up to 1.25 percent and 1.50 of the AUM for the management of the default portfolio and the rest of the portfolios, respectively.

While participation in the VRSP has been low, the government argues that employees may have opted for alternative retirement savings vehicles available in Quebec. As of September 2017, approximately 70,000 employees (8,000 companies) registered in the VRSP pension system. While this number seems to be rather low, the authorities have explained that the introduction of VRSP has given the opportunity to companies to offer other types of pension plans available in the Quebec Province, including *REER collectif, RRS,* and *CELI collectif*. The overall evaluation of the impact of VRSP needs to look at the impact on other pension plans.

Preliminary lessons

The VRSP has several important features, including the need to offer lifecycle investment portfolios as a default option. The role of the employer in selecting the pension fund managers follows the occupational fund tradition of the Quebec Province and is aligned with the rest of the pension plans available. The VRSP also offers gradual increases in contribution rates that create incentives for staying in the system.

While the payout phase seems to be well placed, it might be insufficient given the possibility of withdrawing the contributions of the employee during the accumulation phase. While the system offers the possibility of annuities in the payout phase, it is not a good practice to give individuals the

possibility of withdrawing the money before retirement. Beshears, Choi, Laibson, and Madrian (2018) supports the evidence that this might be the case.

Caps on fees seem to be high. While the regulation sets caps on fees, they seem to be high for an economy with a sophisticated financial market.

An overall evaluation of the VRSP needs to include some other pension plans existent in Quebec. The low rate of participation in the plan, explained by the presence of other pension plan products, according to the government is related to the fact that in cases that the employer decides to make matching contributions, other pension plans offer them better tax advantages compared with the VRSP. Overall, the success of VRSP needs to be evaluated considering the overall coverage of the private pension system, and not only the VRSP.

e. The case of Chile

Chile has a well-established mandatory funded pension system. In 1981, Chile was the first country in adopting a mandatory funded scheme in an open pension fund system (second pillar), which serves as a reference to other reforms that took place later in other countries. While the system is still in place, the government was concerned about the low coverage of the self-employed.

Automatic enrollment for the self-employed

The focus of Chile's AES is the self-employed. In 2008, a law introduced an automatic enrollment scheme for the self-employed, as a transition for turning their contributions to the pension system mandatory. The system would run with automatic enrollment between 2012 and 2015 and start being mandatory in 2016. The law introduced a gradual process of participation, in terms of the percentage of covered earnings to be used for the purpose of paying contributions, as shown in Table 4. During the years 2012-2014, the self-employed were automatically enrolled in the pension system with the possibility of opting-out. After 2015, the law stated that contributions of the self-employed had to be mandatory.[22]

Table 4. Chile: Calendar of Payments of Contributions (% net income)

Year	% of net income to contribute	Process
2012	40%	Opt-out
2013	70%	Opt-out
2014	70%	Opt-out
2015	100%	Mandatory

Source: SII

The Internal Revenue Service played a key role in enrolling the self-employed into the pension system. The opt out was implemented in the tax income process. The Tax Revenue Service (SII), determined the amount of contributions that self-employed workers had to pay to the pension system each year. The SII withheld 10 percent of the amount of each invoice or receipt for services provided

[22] In 2014, when the time for turning the system mandatory was getting closer, the government decided to postpone until 2018 the moment for making contributions mandatory. Subsequently, a law with these features was approved.

by the self-employed to make provisions for the tax payment, which were then transferred to pension fund management companies in the form of contributions. Individuals were allowed to opt out until the end of the income tax cycle in April of each year.

The AES helped to increase significantly the number of contributors among the self-employed segment. According to the Internal Revenue Service, coverage of the self-employed increased from an historical average of 4 percent to approximately 32 percent and 27 percent in 2012 and 2013 respectively.[23] In 2016 it reached approximately 25 percent of the eligible group of self-employed.

Preliminary lessons

While the outcomes in terms of coverage were modest compared with other countries, it is still significant since it is only related to the self-employed. Overall opt out rates were high, but the AES was able to enroll a significant number of self-employed, roughly 300,000 individuals. Although the opt out rates seem high, it is important to highlight that this is a difficult segment of the market.

While there existed some transition, the jump from one year to another in terms of contributions was noticeable for participants. The high opt out rates can also be explained by factors such as the high contribution rates as a starting point. With 10 percent contribution rates the change in income tax from one year to the next one was noticeable for contributors, even if that money was deposited in the individual accounts. For drastic changes in contribution rates AES probably might not be the proper vehicle. Since the opt out for self-employed was only used as a transition for reaching a mandatory scheme, the emphasis was not so much on trying to build a smooth automatic escalation.

The opt out period was very long. Individuals could wait until end of the personal income tax cycle (April of the following year) to opt out. Given the structure of incentives, a significant number of individuals decided to opt out in the weeks previous to the end of April. The window of opportunity in most of the pension schemes is relatively narrow, and in the case of Chile the incentives are high for reducing the amount of the transfer to the Tax Authority.

f. The case of Brazil

A law imposed a cap on the pension benefits from the social security system to civil servants of the federal government, but gave the option of additional voluntary savings. As a way of reducing the long-term pension liabilities of the federal government, contributions of the new civil servants of the federal government were subject to a cap, which also limited the amount of benefits that they could receive at retirement age. The pension fund (Funpresp-EXE), created by Law in 2012 has the only purpose of complementing the pensions of civil servants that make contributions above the ceiling.[24] Voluntary contributions above the ceiling receive a matching contribution from the state.

The most significant experience with Brazil's Funpresp is that it was born as an opt-in scheme and then it turned into an opt-out institution. While as an opt-in institution, it struggled to get sufficient contributors; as an opt-out it has received massive participation of civil servants. In November 2015,

[23] It is important to highlight that 4 percent is calculated from the total number of independent workers, while the 32 and 27 are calculated over the eligible sample of contributors: age below 50 and 55 for men and women respectively. See also Paklina (2014).
[24] It will also offer benefit payments after retirement in the future.

a new law moved the status of Funpresp to an opt-out scheme. This single change reduced the opt out rates from 71 percent to 14 percent from November 2015 to November 2017.

Although fees are relatively high, with greater scale they should be able to decrease in the future. While fees charged by the Funpresp are relatively high (7 percent of contribution), assets are managed from a long-term perspective and the institution operates with high levels of transparency.

While some political groups have challenged the constitutionality of the automatic enrollment, other subnational entities are adopting similar approaches for attracting contributors. A political group challenged in Court the constitutionality of the automatic enrollment scheme, arguing the new AES is not voluntary.[25] While the court has not analyzed the case yet, the government argues that such case is unlikely to prosper. In fact, various other initiatives are being developed in order to strengthen the possibility of automatic enrollment. Local governments, including the state of São Paulo, have approved laws that allow their schemes to operate with automatic enrollment. In parallel, a group of congresspersons also proposed legislation to allow private sector employers to offer AES.

Preliminary Lessons

Opt-out mechanisms have a completely different impact on participation. Brazil's Funpresp provides a remarkable example of a civil code country, where switching the simple change from an opt-in to an opt-out scheme created radical changes in the rates of participation. It is important to highlight that the package of matching contributions offered by the government is a generous one.

IV. Lessons for emerging economies

The importance of a "fair deal"

Since implementation of AES implies great responsibility for governments in nudging contributors to welfare improving decisions, it is essential to offer a fair deal to their participants. AES are based on inertia and behavioral aspects of individuals and consequently it is likely that some uninformed individuals will participate in the system without even knowing. These individuals simply did nothing when they started to work in a company and remained within the default options in the following years.

Since AES are largely based on inertia and behavioral aspects of individuals, default options offered to the participants need to be aimed at optimizing future pensions. In other words, the paternalistic approach of AES should be reflected in adequate policy actions resulting in future optimization of pension payments. From the public policy perspective, the responsibility of the government is to ensure that these uninformed individuals receive a fair deal, in terms of low fees, adequate investments and proper quality service, and conducive to optimization of their retirement income. To the extent that some individuals are trusting the system and are unable to make proper financial decisions, the responsibility of the government in defining the default options should not be taken lightly.

[25] See https://www.jota.info/opiniao-e-analise/colunas/reg/adesao-automatica-a-previdencia-complementar-06102017

The paternalistic approach of AES builds on the lessons learned from second pillars. Instead of expecting individuals to make the decisions about portfolio allocation and selection of pension fund managers, AES should assume that individuals are not capable or interested in making such decisions. The introduction of AES imposes a more balanced role between the government and individuals. While individuals should maintain the freedom to make different choices, the government should allocate to them what is optimal from the perspective of ensuring consumption smoothing. This concept contrasts with the traditional concept of second pillars, where public policies assume that the responsibility for selecting pension fund managers and investment portfolios is entirely of the employee. In that case, the government only ensures a proper regulatory framework and pension fund managers offer investment alternatives that individuals should choose. By contrast, the overall design of AES assumes that individuals may stay within the default options, though giving them the possibility of deciding something different.

Default options also include the overall design of the pension fund industry. The responsibility in the design of default options is not only related to the decision of enrolling contributors[26] and investment decisions, but also in the overall design of the system. It is important move away from pension fund management companies that offer hybrid structures, such as the institutions existent in most of the second pillars; and to rely more on specialized institutions that compete in areas where competition is welfare improving, such as portfolio management, and take advantage of scale economies in areas where scale is significant such as account management, recordkeeping and collection of contributions.

Default investment portfolio

The default portfolio is an important component of the AES, and its importance is derived from the fact that individuals are unable to make proper portfolio allocations. Portfolio allocation at each moment in time is a very difficult question to answer by the average contributor. With the developments in behavioral economics—and with Richard Thaler having won the Nobel Prize in Economics—today it seems unreasonable to design a pension fund system that assumes that individuals have the capacity to make investment decisions aimed at optimizing their future pensions.[27] In reality, the decisions on portfolio allocation in second pillars tend to be supply driven by sales forces (Berstein and Cabrita, 2007) and more recently influenced by pseudo advisors through the social media.[28]

Lifecycle portfolios are a reasonable investment benchmark for the open pension systems. The question to answer is: in the presence of an open pension system, what would be a default investment strategy that is more likely to optimize the pensions of individuals at retirement age. Campbell and Viceira (2001), and Viceira (2014) among others, highlight that lifecycle portfolios are the best alternative for managing these assets. Lifecycle portfolios allow individuals to invest in riskier assets at young age and move toward more fixed income portfolios as individuals approach retirement age. While this model implies some volatility in the value of the assets, it allows individuals to generate

[26] See Madrian (2013).
[27] See Benartzi and Thaler (2013, 2007), and Thaler and Sunstein (2008).
[28] See the case of Chile, since pseudo advisors are not regulated, there has been public confrontation between these people and the government. See http://www.elmercurio.com/Inversiones/Noticias/Fondos-de-Pensiones/2017/03/16/Super-de-Pensiones-cuestiona-recomendaciones-de-Felices-y-Forrados.aspx

yields that are necessary for optimizing their future pensions. In addition, lifecycle benchmarks facilitate monitoring of competing pension funds (Rudolph and Sabat, 2016).

Since the portfolio depends on the governance of the pension fund, it is common to find well managed pension funds that follow different investment strategies. Others may argue that life cycle investment is not the preferred option by some large pension funds, including TIAA CREFT, TSP, Ontario Teachers. Their investment strategies tend to be consistent with their specific objectives, and governance structure tends to be functional to those objectives. For example, some of these pension funds have investment strategies that have significant investments in illiquid instruments and take active participation in private deals. While taking advantage of the liquidity premium and taking control of companies is something that can pay off in the long run, it requires a different governance structure than one that characterizes the open pension fund scheme. While in the Danish and Dutch pension fund schemes, social partners play a significant role in ensuring that the investment strategies are consistent with the long-term objectives of their employees, such levels of surveillance and accountability are imperfectly replicated in open pension funds through supervisory agencies that cannot provide opinions about the quality of investments.

Investments in less liquid instruments and private deals face some significant challenges in emerging economies. Private investments, as opposed to public ones (traded in exchanges or electronic platforms) are typically more difficult to value, which imposes a challenge in terms of the value of the portfolio at each moment in time. Creative valuation of the assets may create an illusion to participants in terms of the value of the assets accumulated in their pension fund. In some markets, like the Russian Federation, the lack of capacity to identify ultimate beneficial owners may open opportunities for self-dealing and for transactions with related parties at transfer prices that do not reflect the real value of the assets.

In open pension fund schemes, pension funds will demand instruments with trading value. While there is scope in open pension schemes for investing in some less liquid instruments, for example, through private equity funds, their participation within the portfolio needs to be constrained. Considering that in open pension schemes the bulk of portfolios should be invested in more liquid assets, lifecycle strategies provide a superior framework that allows individuals to optimize their pensions at retirement age. Since individuals tend to remain in the same pension portfolio allocations for long periods of time, lifecycle strategies—which automatically move the portfolio allocation from equity intensive assets to fixed income intensive assets throughout the working life of individuals—are better than lifestyle strategies, which maintain the same asset allocation at all times.[29]

While life-cycling is a powerful concept to include in default options, it needs to be narrowed in order to be meaningful to the objectives of AES. Lifecycle strategies can be designed in multiple ways, with different long-term objectives and different risk levels along the life of contributors. Public policies in AES should aim at narrowing the objective of the pension system in terms of expected replacement rates and risk levels within the system. Letting individuals choose the portfolios among competing companies, without offering a default portfolio, is still insufficient from the perspective of ensuring adequate replacement rates in the future. Therefore, a common benchmark portfolio for all

[29] While lifecycle strategies change portfolio allocations throughout the life of an individual, lifestyle funds (keeping fixed asset allocation shares) rebalance funds periodically in order to offer the same risk at all times.

pension fund managers, built exogenously with the purpose of optimizing the pension portfolio of individuals, may help to align public policies with the long-term objectives of individuals.[30]

The optimal portfolio strategy of the AES depends, among other factors, on the benefits offered by the social security and other retirement income.[31] The portfolio allocation among the lifecycle approach is different in a country where social security offers replacement rates in the range of 60 percent versus one where the system offers 20 percent. Assuming the social security system is fiscally sustainable, the equity component of the first case could be higher than the second one, as their retirement income would have higher and more stable retirement income than the second case.

Common portfolio benchmarks facilitate competition among asset managers. While offering lifecycle portfolios is better than offering lifestyle ones, public policies need to go a step further and create common portfolio benchmarks for the whole industry. Expecting employees or employers to understand the differences among investment alternatives offered in the market is not aligned with the effective capacity of individuals to understand the complexities of the financial sector. The likely outcome of relying on such is that allocations will be driven by costly marketing campaigns and technical aspects of the design will move to a secondary level of importance.

Creating common portfolio benchmarks allows pension funds to move away from the "short-term returns tyranny," and focus more on long-term investments. Instead of focusing on showing short-term results, pension funds will start to focus more on strategic asset allocation, and in building portfolio allocations with levels of risks that are consistent with long-term optimization.[32]

The role of employers: Occupational-based versus open pension systems

The accountability of employers in civil code countries is limited compared to those with Anglo Saxon traditions. In Anglo-Saxon traditions with AES, employers are required to select pension fund managers for the pension plan of employees. In the case of the United States, employers are accountable for such selection, and they are required to demonstrate that there was a due process associated with the selection of the manager. Since employers are liable for their decisions and participants may bring them into court in cases that such a process results in some damage to them, employers have to be careful in the selection of the pension fund manager.[33]

Employers' accountability is not easy to achieve in civil code countries. At the most, regulations may include a number of procedures that the employer may have to follow, including analyzing the prospects of three potential managers, but it would be difficult to prove in a court an employer's negligence in the selection of the manager.

The value added of the employer in the selection of the pension fund manager might be limited. While some large companies, especially those in the financial sector, may have staff with investment expertise that can help in the selection of the asset management company, most of the medium and

[30] This design contrasts for example with the case of the Estonian second pillar, where individuals who do not make an active decision on the portfolio are "punished" by allocating them into the conservative option. Such an option is likely to offer low pensions in the future, and probably is suboptimal from the perspective of optimization of the future pensions.

[31] Rudolph and Sabat (2016) provide a description of how to design pension portfolio benchmarks.

[32] See Castaneda and Rudolph (2010).

[33] Th American system offers the possibility of "Safe Ports," which limits the employer liability if certain conditions are achieved, including lifecycle portfolios and minimum contribution rates from employers and employees.

smaller companies are unlikely to have the capacity to do it. In addition, since the decision about the pension fund manager has little benefit to the company (except for complying with the law), employers have limited interest in investing resources for the selection of the company. This problem of incentives is further enhanced by the indifference of some employees to this selection process.

Since employers represent various clients, the salesforce from pension fund managers is likely to be directed toward larger companies. Since the interest of the employer in such a transaction is limited, such relationships with pension fund managers open opportunities for corruption in the selection of the provider. For example, the pension provider might be able to offer financial services to the company on related issues at subsidized rates, in exchange for selecting that company as the main provider. In other words, the employers may want to get some benefits out of the process of the selection of the pension fund manager. Such a result does not benefit the employees in any significant way and creates a culture of corruption where the selection of managers is not guided by the best interest of the employees. In civil code schemes such issues will be difficult to prove in a court of law.

In the presence of common benchmark portfolio, differences among pension portfolios are largely limited to investment style (i.e. active versus passive investments), therefore the value added of the employer in selecting the pension fund manager is minimal. Some asset managers would offer more active management and higher fees, and others more passive management and lower fees, but all of them should aim at the same target. Employers have little to say in that decision.

In the presence of civil code countries with common benchmark portfolios, it is possible to separate the employers' responsibility of registering employees from the one of selecting the pension fund manager. As discussed above, in the presence of a portfolio benchmark, the value added of employers in selecting the pension fund manager is rather limited, consequently through competitive procurement, the system should allocate individuals to the default portfolios. Individuals may still choose to change a pension fund provider and investment strategy. Thus, the only role for the employers is to register their employees, and from that moment on to make contributions on behalf them. In other words, in the presence of defined contribution (DC) pension schemes with default investment strategies, the role of employers is optimized when it is limited to registration and paying the contributions on behalf of the employees. All of this assumes an efficient procurement system for allocating contributors, as described below.

The governance of common portfolios is essential in order to ensure that the objectives are aligned with the best interests of the contributors. While a common portfolio benchmark allows individuals to get into patterns of investments that are consistent with long-term portfolio optimization, it requires a governance process that ensures integrity in the decisions. If existing governance approaches cannot ensure that the benchmark portfolio is not influenced by domestic policy considerations (e.g., trying to direct pension investments into public securities or projects), it is preferable as a second-best option, if pension fund managers adopt their own lifecycle portfolios.

It is important to highlight that equity premiums might not be consistent with equity investments in local markets. Lifecycle strategies are consistent with international portfolio diversification. Countries with significant restrictions on investments abroad may have different investment strategies. While the evidence supports the presence of equity premiums in developed markets, such evidence might not be evident in the case of emerging economies. Pension funds may become the most significant institutional investor and investing through indices may create opportunities for abuses by the rest of the market players. In addition, participation in private sector securities in

countries where it is not possible to identify the ultimate beneficial owner might be risky, as it opens the opportunity for self-dealing. The design of the benchmark portfolio needs to take these issues into consideration at the time of proposing the benchmark to be used.

Industrial organization of the pension fund industry

With all the benefits of having in place funded pension schemes, the industrial organization model of traditional second pillars suffers significant inefficiencies.[34] Second pillars tend to operate through hybrid structures that conduct account management and investment management functions together. While account management, including recordkeeping, collection of contributions and customer service, operates with scale economies, portfolio management functions require more limited scale and create opportunities for competition. The combination of these two functions in a single institution results in cost duplication, excessive costs in salesforce and office space, and suboptimal portfolio allocations.

Traditional models of second pillars are characterized by wasteful competition. In the presence of uninformed demand, the evidence suggests that selection of contributors is largely supply driven, in particular by the presence of a salesforce. The most "successful" pension fund companies tend to be those with a larger salesforce and territorial presence, which are expensive cost-wise, and offer products that are unrelated to investment performance. Since employees can move pension fund managers (as a basic principle of open pension funds), pension fund management companies position themselves through their commercial strategy, e.g., increasing the number of clients, by "stealing" them from the competition. In order to avoid an unnecessary war of attrition; typically, through formal or informal agreements the pension fund companies reach some sort of agreement for maintaining some relative market share (quotas). The agreement allows them to charge higher fees, which are profitable for the industry, but at the same time maintain their quotas. These deals are typically secured via the maintenance of sizable sales forces and territorial presence as deterrence factors for potential new pension fund management company entrants.

The usual industrial organization of second pillars thus not only results in higher costs, but also in inefficient portfolio allocations. As shown by Castaneda and Rudolph (2010), in the presence of uninformed demand, interactions among pension fund management companies result in multiple equilibria and when relative return benchmarks are included, portfolios tend to be biased towards short-term instruments. Intuitively, this is because short-term portfolios tend to be less volatile, while more cyclical, than longer-term ones. The market by itself would be unable to converge to the optimal portfolio for participants.

Some countries have tried to deal with these problems through patchwork policies, including limiting the mobility of individuals over time, imposing caps on fees, allocating new entrants to the lowest fee provider, but none of these strategies have been able to deal with the most fundamental issue which is the ineffective industrial organization of the model.

For starters, account management and portfolio management are two fundamentally different businesses, and it is desirable to separate them. A separation of these two functions allows a better pricing and portfolio allocation that is consistent with the long-term objectives of the pension fund system.

[34] See Randle and Rudolph (2014).

In addition, since the market is unable to converge to the optimal portfolio, it is optimal to decide on the benchmark portfolio exogenously. As explained in Rudolph and Sabat (2016), such a portfolio could be built with the support of a Wise-Person Commission.[35] The benchmark portfolio is simply a linear combination of various specific market indices, and in the presence of lifecycle strategies, such indices tend to change weights over time.

The business model should move toward specialized asset managers that compete on prices. In the proposed model, instead of having an intermediary pension fund that purchases funds from different sources, the fund of each individual would have participation in all eligible market funds but with weights that are changed over time (via feeder funds). Assuming for simplicity that there are only two assets, fixed income and equity, a young individual at age 20 will have 90 percent of her portfolio invested in equity, but these weights will change over time. By the time she turns age 60, she will have only 30 percent in equity and 70 percent in fixed income. There is no relationship between asset managers and individuals, and consequently all the over-costs associated with salesforces and commercial products will tend to disappear.

Competition on asset management would therefore take place ex-ante. Once the benchmark portfolio is decided and the indices of the various asset classes are selected, the government selects the asset managers that would run the portfolios tracking those indices. The asset managers would compete to be one of the feeder funds for the pension fund system. This competition would result in low costs which will be directly transferred to individuals. This model of feeder funds also has the advantage of ensuring that fees can be compared in a well standardized market.

While the model includes a limited number of indices, there is opportunity for more than a few asset managers. The design may include more than one asset manager per index, and may include different investment styles. In smaller markets, with underdeveloped roles for institutional investors, it is desirable to have several asset managers for investments in domestic assets, in order to avoid monopsony power by a single institution. This is particularly important, for example, in the case of government bonds, where price formation needs participation of several agents. While banks typically are active in this market, the tenors required by the pension system could be much longer than the ones that banks typically work with.

The account manager is a key figure in the proposed industrial organization, and it fulfills all the functions that are not related to investment management. In particular, the account manager develops all operations related to collection of contributions, bookkeeping, research and communications, financial education and customer service. The account manager would provide information to individuals through standardized formats and will be selected through a transparent process. The figure of account manager allows taking advantage of scale economies and avoiding unnecessary expenses that create the conditions for oligopoly structures. This design of the AES would require significant efficiency and transparency on the part of the account manager.

The process for hiring asset managers and the account manager requires a high level of transparency. While this model allows transferring to individuals all the rents that otherwise are captured by pension fund managers, it requires public institutions with a high level of governance and transparency. The model will work only to the extent that it is possible to conduct a transparent process for selecting the different portfolio and account managers. To the extent that these processes

[35] It is beyond the scope of this note to explain how to create these benchmarks. Readers may find a useful reference in Rudolph and Sabat (2016).

cannot be conducted in a transparent manner, it is preferable to use a model similar to the traditional second pillars. In such cases, the use of some form of tariff or caps on fees, while suboptimal, may be effective in reducing the rents captured by the pension fund industry.

Communication and educational campaigns

Communication and educational campaigns will reinforce the default options. While the automatic enrollment is the most powerful tool for bringing pension funds into the pension fund scheme,[36] the model needs to be complemented by well-designed communication and educational campaigns. The default options rely largely on the credibility of the government institutions, and consequently it is essential to support the message that default options are welfare improving.

Lack of adequate communication and educational campaigns is common in cases with high opt-out rates. To the question as to why opt out rates in Turkey have been in the range of 50 percent while in the United Kingdom less than 10 percent, it needs further analysis, but communication campaigns may have the answer. While the communication strategy was carefully crafted in the United Kingdom, in the case of Turkey it was more of a last-minute act. While in the United Kingdom, agencies had years to prepare for the strategy, in Turkey, from the moment that the law was approved, until the moment that the larger companies had to register their employees, less than five months passed. Since the credibility of public institutions is also on display, the political context is also relevant. In the case of Turkey, the system started operating in a state of emergency, where "roughly 150,000 people were suspended or sacked from their jobs, and more than 50,000 arrested to face charges".[37] Although Turkish market players tend to attribute the high opt out rates to the lack of contribution of employers, the contribution from the state and the possibility of withdrawing money before retirement makes the system financially attractive, therefore a broader analysis needs to be taken into consideration as to its lack of success. In Italy, regulators did not have the time to prepare a proper campaign either.

It is important to give attention to social media. In the face of an era where social media is powerful in releasing messages to the public (which are not always well intentioned or correct) it is essential to have communication and educational campaigns that can provide consistent messages to different groups of the population that support the view that AES are aimed at improving the life of future retirees.

Communication strategies should have clear messages on performance, and consequently focus on expected pensions, rather than rates of return. One of the key lessons of communication campaigns, which has been very damaging to pension fund schemes, is to dwell on messages related to rates of return of the pension system, which should be avoided. Rates of return are a concept, which are difficult to process for most individuals and create a source of insecurity that in many cases leads to wrong decisions. For example, in the worst moment of the financial crisis, when equity prices bottomed, many Chilean contributors moved their funds into conservative portfolios, thus consolidating their losses. The experience of the United Kingdom's NEST in setting a phrasebook for communication purposes is a relevant one.[38]

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[36] See Madrian (2013).

[37] See "A Year Later, A Divided Turkey Remembers Failed Coup Attempt" July 16, 2017· https://www.npr.org/sections/parallels/2017/07/16/537549673/a-year-later-a-divided-turkey-remembers-failed-coup-attempt

[38] https://www.nestpensions.org.uk/schemeweb/NestWeb/includes/public/docs/NEST-phrasebook,PDF.pdf

Performance of portfolios should be communicated in simpler terms. Explaining with simper methodologies such as traffic lights (see Rudolph and Sabat, 2016) or simply highlighting whether participants are or not on target to achieving their expected replacement rate, is more useful from the perspective of influencing decision-making by participants. Although information on rates of returns should be provided, it should not be over-emphasized given that short-term volatility in them is not necessarily unhealthy, and to the extent that different cohorts would have different portfolios, average returns will be meaningless.

Financing economic development

The contribution of the pension fund system to the development of the economy is a relevant question. One of the common questions on pension fund schemes in emerging economies is about the impact of the pension funds in financing the development of the economies. Pension fund systems should be able to fuel the financing of new companies and projects. It is common to find that the volume of assets managed by pension funds tend to outgrow the size of the available assets in the financial market. The first winners in these processes are listed companies, and whose majority shareholders see the possibility of expanding capital, reducing their equity participation and maintaining the control of the companies at the same time. However, this is a narrow way of supporting the economy.

Creating dynamism in the supply side has been the main challenge. The lack of capacity of domestic markets to create enough financial instruments to cope with the growth of the assets of pension funds creates the risk of price bubbles, which is something that authorities need to be aware of. While most of the countries react to these threats by allowing greater investments abroad, which is reasonable and desirable, it is possible also to engage in public policies aimed at bringing financial instruments to the market. While pension funds can be active in purchasing available assets, they are not called to be market makers, and to the extent that good ideas are not turned into good projects it is difficult to expect pension funds to participate in the financing of these projects.

Public policies also play a role in facilitating the development of eligible instruments for the pension fund industry. One example is in the case of the infrastructure sector through Private Public Partnerships (PPP). The government, through some of its institutions (e.g. PPP office), might be proactive in developing projects that can seek financing from institutional investors, for example, via infrastructure bonds. Highways, ports, and airports are the most common projects that can be granted in concession agreements for two or more decades and can generate financing via long-term fixed income instruments that is desirable for the pension fund industry.

While pension funds can be instrumental in leveraging projects, they are unprepared for financing the bulk of them. In this regard, public banks, acting on arm's length principle, can be instrumental in analyzing these projects and presenting them to pension funds for partial financing, provided such projects are acceptable within the policies, governance, investment strategy, and risk parameters of pension funds. Pension funds should be free to participate in these deals, but they should have all the information available for them to propose pricing for the different deals.

In the presence of market failures, state financial institutions may play a role in supporting the participation of pension funds in the financing of projects. Instead of expecting the invisible hand to act and propose projects to pension funds, authorities may consider more proactive polices, where state banks (or similar institutions) play a catalytic role in bringing money from institutional investors

into areas of interest, for example infrastructure. While pension funds should be free to participate in these deals, the state bank can help in structuring financial products that could be appealing for the investment policies and risks that pension funds are willing to take.[39]

The payout phase

A funded pension system without a well-developed strategy for paying out eventual benefits might not be called a pension system. Offering lump sums at retirement is not consistent with the idea of creating pension fund schemes that support consumption smoothing. The evidence suggests that individuals may overspend such money in short order, leaving them unprotected or with drastic falls in retirement income once they get older.

Recent experiences of liberalization of the payment of pension benefits has resulted in a high proportion of individuals taking cash lump sums. The experience in the United Kingdom and Peru shows that there is a high proportion of individuals taking these lump sums. Anecdotical evidence suggests that not all people spend their pension money in the short-term while many of them keep it invested in suboptimal strategies, such as bank accounts. In Peru, where 95 percent of retirees have taken lump sums, some people purchase annuities directly in the market, albeit paying very high fees, resulting in inefficient allocations.[40]

Annuities provide a solution that protects individuals against longevity risk, and at the same time may offer a stable or relatively stable retirement income. However, for the annuities market to work it is important to have a heterogenous diverse pool of participants (that approaches the average mortality rate of the population) in a way that allows the annuity companies to ensure stable retirement income until death to all participants.

Such a critical mass of participants is difficult to achieve in voluntary schemes, but through default options and communications strategies, it is possible to incentivize people to participate more broadly. In the case of Chile, almost half of the retirees choose annuities. This participation is achieved through an efficient competition system—through an electronic quotation system, SCOMP—and proactive communication campaigns by the life insurance companies who offer the annuities.

Most importantly, the design of these pension schemes should only allow withdrawals after retirement age. AES should not be designed as a short- and medium-term tax deferral mechanism, but as a complement of future pensions of individuals. While it might be a “hard sell” for individuals to have their monies locked in a pension fund until retirement age, it is the only way of ensuring that the pension system is functional and meets its long-term objectives. The experiences of offering some liquidity for these funds during the contribution phase, for exceptional reasons, can mitigate the reluctance of individuals to participate in voluntary pension plans.

Liquidity options in the accumulation phase

In order to mitigate the fear of locking money until retirement age, the system may offer some liquidity options in the form of loans to participants. The whole idea of a loan is to increase confidence of individuals about the pension fund scheme. While amounts should be limited, they should be easy to access, and they should be granted on standardized packages. According to PWC

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[39] See Garcia-Kilroy and Rudolph (2017).

[40] In March 2016, the Peruvian Congress approved a Law that allow retirees to take 95.5 percent of the value of their pension account in the form of a lump sum. Peru has a mandatory funded pension scheme.

(2017), in a question to millennials of how difficult it is to access USD 2,000 within one month, nearly 50 percent of them did not believe they could come up with that money if an unexpected need arose within the next month. The loan amount should thus aim at providing that type of volume, provided it is not more than 10 percent of the total savings in the account.

Standardization of such loan instrument is essential for maintaining costs low. One way of doing this is through an agreement with a bank. Upon the request of the individual, the bank has to grant a loan to the individual for a standard amount, and under standardized repayment clauses. The bank loan is collateralized with the pension fund savings of the individual. To the extent that the individual repays the loan on time, the money in his or her pension fund remains intact, but in the event of default, a standardized procedure follows in order to repay the loan with the money of the pension fund. An event of default would become an impediment for individuals to take new loans in the future.

In order to avoid having individuals use these funds as an alternative to traditional bank borrowing, the interest rates of the pension fund loans should be higher than those of banks. Since the sponsoring bank assumes no credit risk on these operations, and receives higher than market compensation for it, a part of the spread should be paid as a rebate to the pension fund, which would be part of the interest earned during that period. This structure of incentives promotes behavior so that only individuals that need the money may use it, it maintains the management costs of loan operations low, and ensures some financial return to the pension fund for these operations.

A limited set of exceptions for early withdrawals should be considered. In addition, in certain specific cases, such as hardship or certified terminal illness, individuals should be allowed to withdraw money from the pension fund. These cases need to be qualified either by doctors or by a court of justice.

Automatic escalation

In order to ensure consumption smoothing, many emerging countries in the Central and Eastern Europe and Latin America regions would need contribution rates to funded pension schemes that are more in the two-digit range.[41] Trying to be too ambitious in the beginning for achieving such target rates may end up reducing the trust of individuals in the system, and consequently may result in high opt out rates.

It is thus preferable to start with low contribution rates and increase them gradually over time. Automatic escalation is the right tool for such design (Benartzi and Thaler, 2004.) The rate of increases may depend on the average growth of real salaries and the rate of inflation. The concept is for employees to split nominal wage growth between contributions to the funded schemes and effective increases in wages of participants. Thus, within a decade or so it might be possible to reach the desired contribution rates.

Since AES are designed for future generations, the first priority should be to maintain employees in the system, rather than imposing a high contribution rate from the beginning. Gradual increases in contribution rates can strengthen the acceptance by contributors by only increasing contribution rates as wage increases rise, thus assuring the long-term viability of the pension system.

[41] 10 percent and up.

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