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THE CURRENT STATE OF THE PORTUGUESE PENSION SYSTEM: LESSONS
FROM INTERNATIONAL EXAMPLES

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Abstract

This paper aims to expose the currently unsustainable situation of the Portuguese pension system. It does so by highlighting key metrics and comparing its structure to that recommended by think-tanks in the sector. Moreover, it brings forward analysis of the Australian pension system, as an example to follow – it is shown that Australia imposes a smaller contribution rate for pensions while still coping well with average pensions and poverty among elders. Furthermore, the Chile's transition from a PAYG system to a fully funded based one is presented, to show how may Portugal replicate it, key lessons are extracted to be factored in a potential reform to the Portuguese system.

Keywords

Pension system, PAYG, fully funded, transition, Portugal, Australia, Chile

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1. Introduction

The alarms sounded in 1994 when the World Bank published a 400+ pages report named “Averting the Old Age Crisis”. The document debriefed on pension systems throughout the world, highlighting pitfalls and proposing changes. At the time, the lion’s share of OECD countries had pay-as-you-go systems running, which, as the report title suggests, were becoming increasingly prone to crisis due to population ageing. Despite the several benefits of pay-as-you-go systems enumerated on the next section, one factor PAYG cannot withstand is an inverted population structure, where a decreasing number of young contributors have to support an increasing number of old beneficiaries. Because of this and leveraging the proposed recommendations in the World Bank report, several countries transitioned to partially or fully funded private pension schemes. Portugal lagged. Government after government kicked forward the daunting reform; The result is clear, the Portuguese pension system is unsustainable in its current form, and either through short term tweaks or a long hauling reform, the system must reinvent itself. On the other hand, countries like Australia and Chile built systems that nowadays follow the World Bank’s recommendations. This paper contributes to the debate on the sustainability and potential reforms to the Portuguese pension system. Hereby, it is introduced auxiliary research stressing out the faulting Portuguese pension system, presenting it side by side with the exemplary Australian pension scheme, as well as bestowing the successful Chilean transition from a system similar to the Portuguese, to one akin the Australian. Also, this paper intends to fuel the debate regarding the Portuguese pension system, more than shedding light on its faulting characteristics, it gathers and presents relevant lessons from international examples, understands what has been done by other countries and what may Portugal learn to replicate their success. There is a wealth of proper research concerning the sustainability of the current Portuguese system, however, not many papers can be found documenting or proposing a transition from the Portuguese system to a private one. I pretend

to add to that segment of work. In order to do so, it was opted to compare Portugal's system to the fourth best system in the world, the Australian (Mercer, 2020). Australia was chosen due to personal proximity to the author, similarity between the countries regarding culture and economic development, as well as the high efficiency and sustainability of their system. The comparison draws attention to the superiority of the Australian system. Next, the dissertation dives into Chile's transition from a PAYG system to a partially funded scheme. The rationale behind this step is to analyse a transition of good reputation. During the eighties, Chile went through a deep reform on its pension system, it swapped a Portuguese-like PAYG system by an Australian-like fully funded system, one of the goals of the dissertation is to extract key takeaways that Portuguese policymakers could use as an advantage. All in all, the work hopes to stimulate the debate around the pressing issue of the sustainability of Portugal's pension scheme, bringing forward the idea of a transition to a multi-pillar private pension system.

2. Literature Review

The scientific community has produced quite an extensive body of research focusing on pension system design, different possible schemes, key objectives, major pitfalls, as well as possible transitions between systems.

2.1. On the objectives of pension systems

A pension system is designed bearing in mind a myriad of objectives (Lagoa and Barradas 2016; Barr 2012). Barr and Diamond 2006 argue that key objectives are, to be the foundational instrument for consumption smoothening, also referred in (Koetsier 2017, Manso 2018) and to function as a mean of insurance, while also referring second order goals such as facilitating economic development, stimulating economic growth, poverty relief and income redistribution. More specifically, Lagoa and Barradas 2016, point the capacity of pension systems to stimulate aggregate demand by increasing the purchasing power of retirees. It is widely accepted in the literature that the weight governments attribute to each objective, ought to be correlated with

the conjectural situation and contextual specifics of the country, e.g. one country might weight poverty reduction above income distribution as a result of context (Manso 2018; Schwartz 2006). Apart from this, poorly designed pension systems may create perverse labour market incentives, deteriorate public deficit and hinder growth (Barr and Diamond 2006), therefore being a crucial discussion within the public policy realm.

2.2. Types of pension systems

According to (Aubuchon, Conesa, and Garriga 2011), there are four possible options to implement a pension system: Funded Defined Contribution System, Funded Defined Benefit System, Unfunded Defined Contribution System and Unfunded Defined Benefit System. Research usually condenses these four into Fully Funded and Unfunded (or Pay-As-You-Go) schemes, this paper shall do so as well. Notice the difference between Defined Contribution and Defined Benefit lays not on the structure of the system, but if a retiree has fixed contributions and flexible benefits, or flexible contributions and fixed benefits.

2.2.1. Fully Funded Pension System

Under this scheme, the active population contributes with a fixed percentage of their income, either paid directly by the employee (e.g. Chile) or by the employer (e.g. Australia), to a pension fund until retirement, upon when, they are entitled to withdraw their contributions either through a lump sum or an annuity (Aubuchon, Conesa, and Garriga 2011). Employees have individual retirement accounts opened on pension fund providers, each month the account is credited with a specified percentage of the employee's income, throughout the year the relevant amount is invested in the financial markets in order to maximise total future benefits for the employee (Azevedo, 2013; Aubuchon, Conesa, and Garriga 2011; Lagoa and Barradas 2016).

Under a one hundred per cent fully funded system, pension account is managed by private institutions operating in a free market, employees are unrestricted to choose the fund investing

their contributions, with the government assuming the role of regulator and supervisor of such institutions (Lagoa and Barradas 2016). A rather recent and regarded as successful example of the implementation of a funded defined contribution system, from a previously public system, happened in Chile during the eighties, this paper dives into such reform on section 6.

2.2.2. Unfunded Pension Scheme (or Pay-As-You-Go)

Under a Pay-as-you-Go (PAYG) scheme, workers pay a portion of their monthly income to a designated state entity in order to provide for the retirement benefits of current retirees – therefore younger generations pay older generations as they go on with their professional career. The benefits are often calculated either through a means-test performed by the state or as a percentage of previous income earned (Aubuchon, Conesa, and Garriga 2011). This pension regime partakes an implicit intergenerational contract whereas active population supports the elderly (Lagoa and Barradas 2016). PAYG deviates profoundly from funded schemes to the extent that funded schemes rely on accumulation of assets throughout the contributors lifetime and PAYG schemes are based on promises the state shall charge one generation to the benefit of another (Barr 2006), this has an implicit transfer of risk between generations and is prone to political hindrance.

2.2.3. Hybrid Structure

Yet another pension design is that suggested by the World Bank in 1994, comprising a multi-pillar structure serving a set of the previously mentioned objectives. The recommendation includes a state-run non-contributory pillar in order to pursue poverty alleviation and income redistribution, a second pillar with a funded structure in order to improve the pension system sustainability as well as a voluntary savings unit to allow for further savings from active population. Examples of countries applying a hybrid edifice are Denmark, Netherlands and Switzerland. Another prominent structure recently rising in several countries (e.g. Sweden) is

that of notional defined contributions systems, see Barr 2006 and Moreira et al. 2019 for a thorough explanation.

2.3. Pros and Cons of each type

Fully funded systems present a myriad of pros to its implementation: (1) diminished risk of political influence, (2) resilience to population ageing shocks, (3) more financial discipline and, (4) aptitude to enlarge pensions due to the capitalization effect (Lagoa and Barradas 2016; Lukovic and Marinkovic 2019). Moreover, this structure aids the development of financial markets by providing a vast pool of liquidity (World Bank 2005). Also, often times, the fully funded system is associated with economic growth by stimulating saving and investing, however according to (Lagoa and Barradas 2016; Murteira 2011), it is yet to be guaranteed such correlation – although this correlation has been studied by (Murteira 2011, Madeira 2013), more research would be welcome on the matter. Nonetheless, the system is not immune from downsides, such as exposing potentially uninformed contributors to the investment decisions of pension funds (Lagoa and Barradas 2016) or ignoring inter-generational redistribution and inequality (Lagoa and Barradas 2016; Amaral 2007).

PAYG systems are commonly pointed out in research as unsustainable under inverted population pyramids (Góra 2019; Feldstein 1995), not contributing to the development of the financial markets and being vulnerable to political interference (Lagoa and Barradas 2016). On the other hand, as the system does not rely on financial markets performance, it is shielded against financial fluctuations as well as inflation, moreover, it provides better grounds for income redistribution (Lagoa and Barradas 2016).

All in all, the objectives pursued by pensions systems can be attained through a myriad of ways (Barr 2002) thus, one cannot state there is a better system than the other, the right choice of pension system depends on the contextual constrains of each country (Barr and Diamond 2010).

2.4. On the transition between pension schemes

A quintessential subject for government gatekeepers and vastly controversial in the literature is the shape and consequences of a transition between systems, being the move from the PAYG system to fully funded, the most commonly considered scenario, even pondered as the most important fiscal decision under the responsibility of governments (Feldstein 1997). The same author shows that a transition from PAYG to fully funded can be attained while maintaining retirement benefits of pensioners. On top of this, (Brunner,1993; Jeske, 2003) studies the swop of a PAYG with an FF system and conclude that in the long run, under a specific set of conditions, each generation benefits from an FF system.

Similar conclusions are reached by (Conesa and Garriga, 2011) who demonstrate possible to fund a transition between systems, Pareto-improving – future generations shall experience a welfare increase between 3% and 8% by changing the pension system. Their strategy includes decreasing the labour income tax during the transition generation, issuing government debt to finance promised benefits to current retirees, gradually increasing taxes to amortize debt afterwards. Further research supporting the upside of a shift from PAYG and FF has been carried out by Andersen, Bhattacharya, and Gestsson 2018, Feldstein 2005 and Damjanovic 2006. Opposite to this idea of a net-positive swop from a PAYG to FF, Barr 2006 argues there are no differences in welfare between PAYG and FF schemes, highlighting the importance of other objectives as the core of pension design. Li and Lin 2011 present similar conclusions, as well as (Sinn 2000) and (Cesaratto 2006).

3. The Portuguese Pension System

As of the writing of this paper, the Portuguese social security system is governed by the first amendment to the law n°4/2007 of 16th January, defining the following objectives for the system: (a) ensure all Portuguese citizens benefit from the right to social security, (b) promote the sustainable improvement of the conditions and levels of social protection and the

reinforcement equality, and (c) promote the effectiveness of the system and the efficiency of its management. The general principles of the system are the principle of universality, equality, solidarity, positive differentiation, subsidiarity, the social integration, intergenerational cohesion, the primacy of the public responsibility, complementarity, unity, decentralisation, participation, effectiveness, and protection of acquired rights and rights in formation, judicial guarantee and information. The Portuguese pension design is a re-distribution system split into three subsystems: *Sistema Previdencial*, *Sistema de Proteção Social na Cidadania* and *Sistema Complementar*. The first sub-system embodies an unfunded defined-benefit structure, providing pensioners with a stable source of income in case their source of pay is halted e.g. retirement, disease, death, maternity and unemployment. The second is a non-contributory sub-system financed by the general expenses of the state budget with the goal to prevent situations of lacking welfare among the population, to decrease social inequality and protect vulnerable citizens. It works as a social insurance to Portuguese citizens and represents a complement to the first sub-system (Lagoa and Barradas, 2016; Corrêa de Aguiar, 2015). The third sub system encompasses a voluntary saving vehicle through which citizens may save more than the amount imposed by the state, this pillar includes two segments: a public option, *Fundo de Estabilização Financeira da Segurança Social* (or FEFSS), a state-run fund that may be subscribed by Portuguese citizens to complement other retirement benefits; as well a private route, *Planos de Poupança Reforma*, funds managed by private players in a free market (Lei n.º 83-A/2013, de 30 de dezembro).

The FEFSS was ascertained in 1989 in order to work as a financial stabilizer of the *Sistema Previdencial* – in case the system requires to run on deficits. Despite of tight and limited investment policies (since 2013, 90% of its portfolio must be comprise of Portuguese bonds (Portaria nº 216-A/2013, de 2 de julho) it is structured as a traditional fund to pursue the capitalisation of public funds, and is financed by a myriad of sources such as income taxes

(IRC), real estate taxes (IMI), positive balances of *Sistema Previdencial* and capital gains from the implemented investment strategy (Labour, Solidarity and Social Security office, 2019), which has produced average annual returns of 4.7% since its inception up until 2019 (Portuguese State Budget, 2019).

In parallel to the previously mentioned schemes, since 1929 Portugal has a special system called *Caixa Geral de Aposentações*, which operates similarly to the *Sistema Previdencial*, but only to government employees. Even though, the end goal is the same for the two systems, the *Caixa Geral de Aposentações* has historically offered better conditions to its members (Lagoa and Barradas, 2016; Silva and Pereira, 2015), creating a profound duality between public and private employees. Nonetheless, this duality is fated to fade as the CGA has stopped on the 21st December 2005 to receive new applicants, the numbers of subscribers is projected to decrease from 503,000 in 2020 to around 20,000 in 2070.

3.1. The Sistema Previdencial

The *Sistema Previdencial* binds Portuguese citizens into a non-signed intergenerational agreement whereby the state taxes employees and employers in order to provide for the benefits of currently retired members of the population (Azevedo, 2014). These transfers enacted by the government allow for redistribution of the collected funds, as a portion of beneficiaries obtain more financial support than their contributions would have allowed, in line with the above-mentioned principle of solidarity. Portugal has one of the highest rates in the OECD of pensioners requiring the help of the government to finance their retirement benefits, *hic est*, were not capable of contributing enough during their active life to finance their retirement (Moreira et. al, 2019; OECD, 2019). Lagoa and Barradas (2016), Silva and Pereira (2015), points to incomplete careers, low wages and emigration as possible justifications.

The *Sistema Previdencial* is funded by a designated tax, denominated *Taxa Social Única (TSU)* charged dually to employees (11% of base remuneration) as well as companies (23.75% of employee's base remuneration), totalling 34.75% of total compensation, markedly above the OECD contribution rate average of 18.1% (OECD 2019). Moreover, in case the *Sistema Previdencial's* accounts present a financial deficit between present contributions and financial obligations to pensioners, transfers from the state budget as well as FEFSS - *Fundo de Estabilização Financeira da Segurança Social* may be executed. So far, the system has been able to stay afloat and avoid running on a permanent deficit, however, projections indicate that, in the near term, contributions will be insufficient to fund the system's obligations. This pitiable situation has been delayed by conjectural reforms to the system, such as: (1) In 2013, suspended the regime of early retirement, (2) in 2014, increase of the retirement age to 66 years old and (3), in 2017, less flexibility on the retirement age for very long contributory careers, (Portuguese State Budget, 2019).

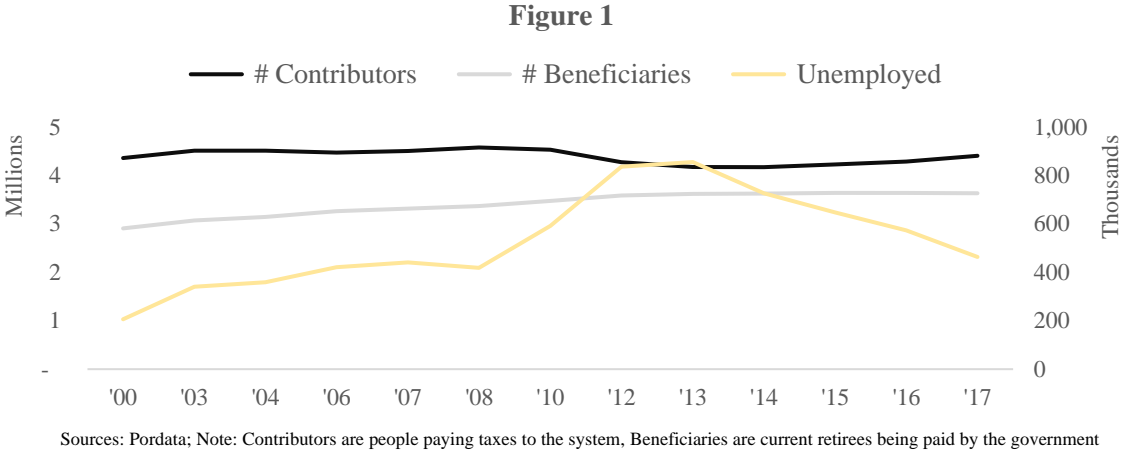
As a defined benefit system, the PAYG *Sistema Previdencial* has an established formula to calculate the retirement benefits of inactive population. The final value depends on the average remuneration of the best 40 years of contributions - the *Remuneração de Referência* -, the number of contribution years as well as the *Factor de Sustentabilidade*, a discount of 15.4% of pension monthly value to be applied to pensioners who retire before the legally recommended retirement age (Portuguese Social Security, 2020).

3.2. Portuguese pension system in numbers

From public media to policy domain experts sitting in panels, opinion is generalized that the Portuguese public system is lacking and unsustainable in the long run. In line with the literature reviewed in section 2, Portugal PAYG pension system is on a path of probable default due to a continuous inversion in the population age distribution. How has it coped so far? And how is it

projected to perform in the upcoming decades? This section dives into the key numbers of the system.

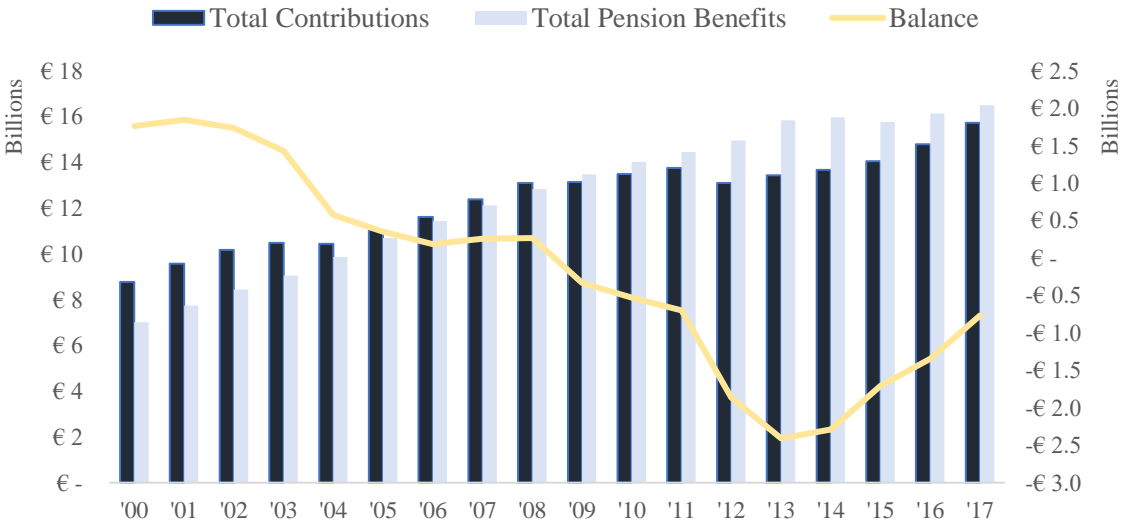
The number of citizens contributing to the *Sistema Previdencial* has increased one percent from 2003 to 2017, reaching 4,405,586 million on that year. On the other hand, number of beneficiaries has increased 25% in the same period, suggesting the above-mentioned unsustainability. The slow growth rate for the contributors count is caused by fluctuations on unemployment levels, population ageing and emigration.



In absolute euro terms, the trend is the same as in Figure 1, sharp increase in expenses with pensions benefits, accompanied by a shy growth in revenues from total contributions. In the analysed period, obligations with pensions (data considers pensions with old age, disability and death) have grown 135% to approximately EUR 16.5 bn, whereas contributions have rose a mere 79% to EUR 15.7 bn. From 2013 to 2017, the government was able to re-balance the deficit within the system and reach a deficit of -0.39% of Portugal’s GDP, up from a concerning deficit of -1.41% in 2013, as figure 2 shows. Moreover, pension obligations have reached an all-time high, considering the period 2003 to 2017, of 9.29% of GDP, with the all-time high for

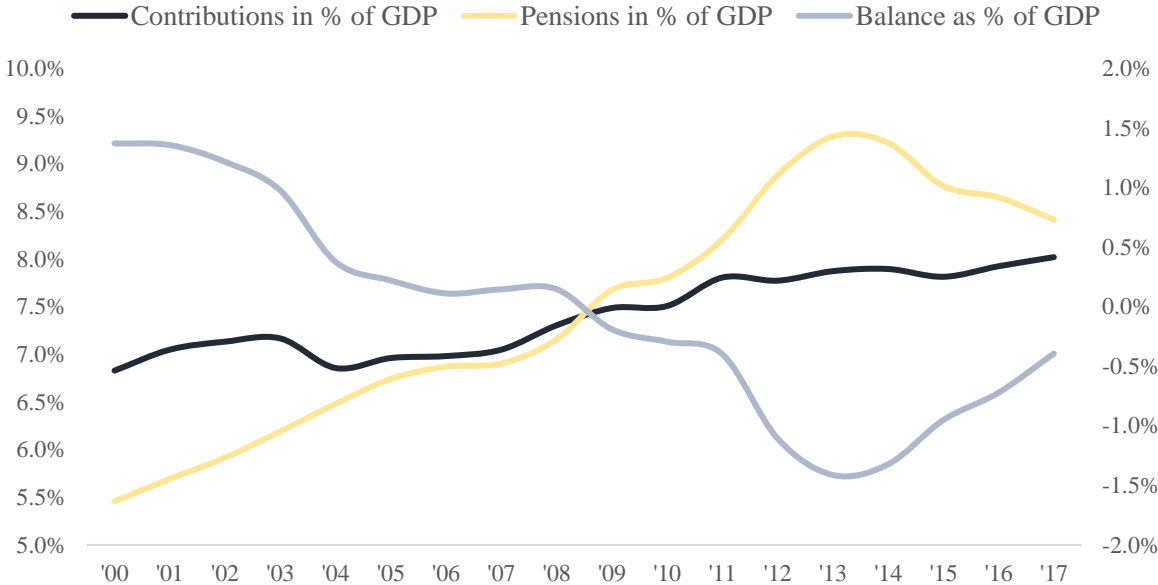
contributions being reached in 2017 with 8.02% of GDP as figure 3 shows.

Figure 2



Sources: Pordata, Author's calculations; Notes: Total Contributions is money paid by contributor accounts to social security, Total Pension Benefits is the sum paid out amount to retirees, Balance is the difference between the two

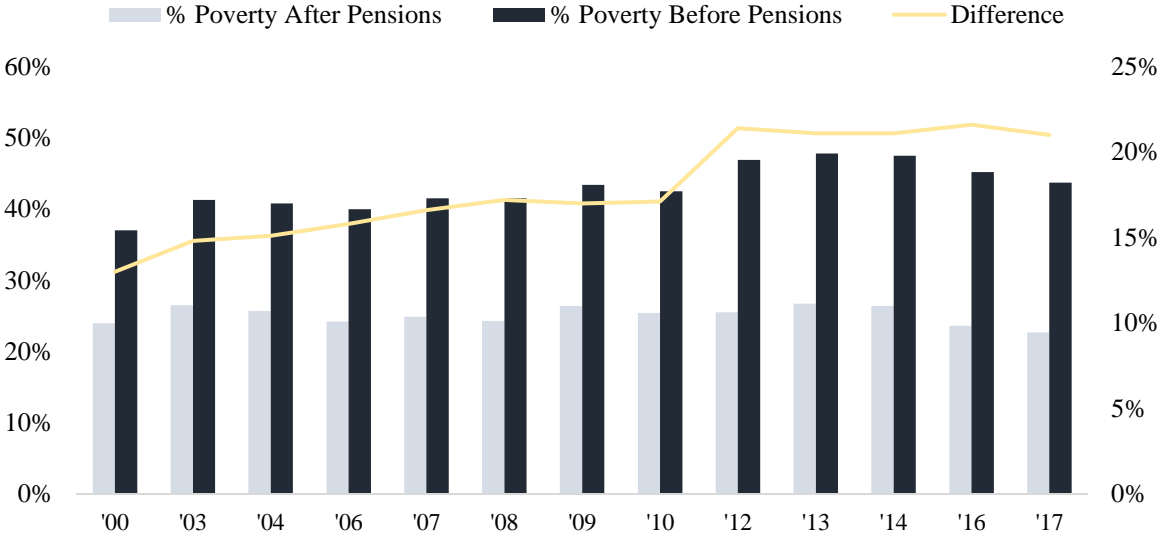
Figure 3



Sources: Pordata, Author's calculations; Notes: Contributions in % of GDP is total contributions in a year divided by yearly national GDP, Pensions as % of GDP is total pensions paid out in a year divided by yearly national GDP, Balance is the difference between the two

Bearing in mind one of the key objectives of the Portuguese system, poverty alleviation, the country was able to decrease 5.42 percentage points the share of population living below the poverty line after transfer of pensions, from 24% in 2003 to 22.70% of total population in 2017. However, it is important to highlight that the poverty line in 2017 was at EUR 467.50 per month. More insightful, would be to look at relative evolution of benefits, comparing the percentage of

pensioners that are provided with a pension below minimum wage, that was 77.90% in 2013 - last year with available data in the Pordata Platform. In absolute terms, the minimal pension reached EUR 264.32 in 2017, up 56% from 2003, apart from this, the average pension distributed increased 78% to EUR 436.39 in 2017.



Sources: Pordata, Author's calculations; Notes: % Poverty After Pensions is the % of national population living below poverty line after public pension benefits were paid out, Difference is the difference between poverty levels before and after public pensions are paid

Even though recent years already show the fragility of the Portuguese system, the most concerning reality lays ahead, making use of projection models for the future of social security, it is estimated that Portugal will lose a third of its active population, from 6.4 million in 2017 to 4.6 million in 2060, oppositely, the elder population shall increase from 2.21 million to 2.97 million in the same period. As a consequence, contributions are set to decrease and pension obligations to increase, resulting in more deficits of the system in orders between -0.4% and -1.1% in the period from 2030 to 2060 – this tallying the emergency help of the FEFSS, without which, the situation would be poorer, estimates that FEFSS dotation will be consumed roughly within a decade, starting in 2028 (Portuguese State Budget, 2019; Moreira et. al, 2019). Furthermore, Fundação Francisco Manuel dos Santos, has issued a report projecting the future state of the pension system while highlighting some of its shortfalls – by leveraging an innovative model for Portugal: DYNAPOR (Dynamic Microsimulation Model for Portugal),

overall it is predicted a continuous deterioration of this core system. It is concluded that, from 2020 to 2045 the share of pensioners from total population will witness a spike increase from 26.4% to 34.4%, which results in an increase from 10.4% to 11.4% of GDP of the amount spent with contributory pensions only (pensions to those who contributed throughout their lifetime). This, combined with the shrinking active population, will lead to an expected deficit of 2.8% of GDP by 2050, approximately minus EUR 8 bn. Although the average pension is projected to increase from EUR 483 to EUR 924 between 2020 and 2070, the percentage of seniors subject to living below the poverty line will increase from 9.53% to 15.46% in the same period – Meaning a tremendous let-down for the poverty alleviation objective of the system in the period under consideration. Focusing on the social prism, the benefit ratio, calculating the relationship of average wages and average pension values, is set to drop 0.45 in 2020 to 0.39 in 2070. Likewise, the replacement rate, the retirement benefit as a percentage of last earned salary, is expected to remain stable between 66% and 69% after 2030.

Looking at the numbers above, one realises how fragile the system currently is to deal with population ageing. As a matter of fact, apart from having deeply rooted poverty alleviation problems, Portugal is one of the countries in Europe that is most probable to suffer due to population ageing (Manso, 2018). Governments have implemented short term reforms to the system e.g. increasing retirement age and introducing the *Factor de Sustentabilidade*, however, these policies only tackle the short-term concerns, leaving untapped a long hauling sustainable solution. As a consequence of policy short-termism and continuous tweaks to retirement, Portugal's pension system is also facing a confidence crisis (Lagoa and Barradas, 2016; Corrêa de Aguiar, 2015; Silva and Pereira, 2015).

4. The Australian Pension System

Australia is a country with a population of roughly 25 million people, around 14% of those aged over 65 years (Australian Bureau of Statistics, 2019). It was chosen as a comparison element

also due to its eye-catching fourth place in the Mercer CFA Institute Global Pension Index 2020 (Mercer, 2020) - a report ranking the best pension systems worldwide -, as well as representing an extremely developed country with high standards of living, efficiently run government bodies and a cohesive society – a model of what Portugal should be.

Australia has a three-pillars private-based structure for their retirement system. It is comprised by a state-ensured Age Pension, a privately managed Superannuation Guarantee and a voluntary savings option (Commonwealth of Australia, 2019). The Age Pension is a state-funded public pillar working as a safety net to older Australians below a certain level of means – it covers roughly 68% of retirees, which is a large portion when compared with OECD countries - while still representing a smaller percentage of national GDP when compared with OECD peers (Commonwealth of Australia, 2019). In particular, Australia partook public expenditure on pensions of 4.3% its GDP in 2015, whereas the homologous OECD average rate was 8.0%, and Portugal's was 13.3% (OECD, 2019).

Age pension was created in 1909, and to be a eligible, one must comply with age, means and residency conditions: one must be over 66 years old, be an Australian citizen, have lived in Australia for more than 10 years, have a fortnightly income of less than AUD 2,066.60 (single) and assets worth less than AUD 482,500 for non-home owners (Drury, 2020). Secondly, and our focus, the compulsory Superannuation Guarantee pillar set forth in 1992 emulates a defined contribution fully funded scheme, whereby active Australians funnel a portion of their wages to a private pension fund that is capitalised in the financial markets (Commonwealth of Australia, 2019), later to be received either through a lump sum or annuity upon retirement of the beneficiary. The third pillar is comprised by a voluntary option whereby Australian citizens may do additional contributions on top of the hand-outs made through the Superannuation Guarantee pillar. Low income employees who make personal contributions to their

superannuation fund may be eligible for the government to make a matching 50% co-contribution (OECD, 2019).

Despite departing significantly from the structure of many employer-based saving schemes in the OECD, the Australian system is very well appraised internationally, as it is profoundly consistent with OECD's recommendations on what formulates a robust system: (1) non-contributory public pensions for poverty relief, (2) funded pension arrangements to make pension systems more protected from age based shocks, (3) larger retirement income requires higher savings thus voluntary mechanism should be in place and, (4) a multi pillar system is better able to attain different objectives, both first order one as well as second order.

4.1. The Superannuation Guarantee Pillar

A compulsory defined contribution fully funded pension system. Employers pay 9.5% (one of the lowest contribution rates of employees' total compensation to an individual private plan in the OECD according to (ASFA, 2019) – employers are not required to pay if a worker earns less the AUD 450 per month, performs a domestic task for less than 30 hours per week or if the worker hasn't completed 18 years old. Self-employed people are also discharged to contribute.

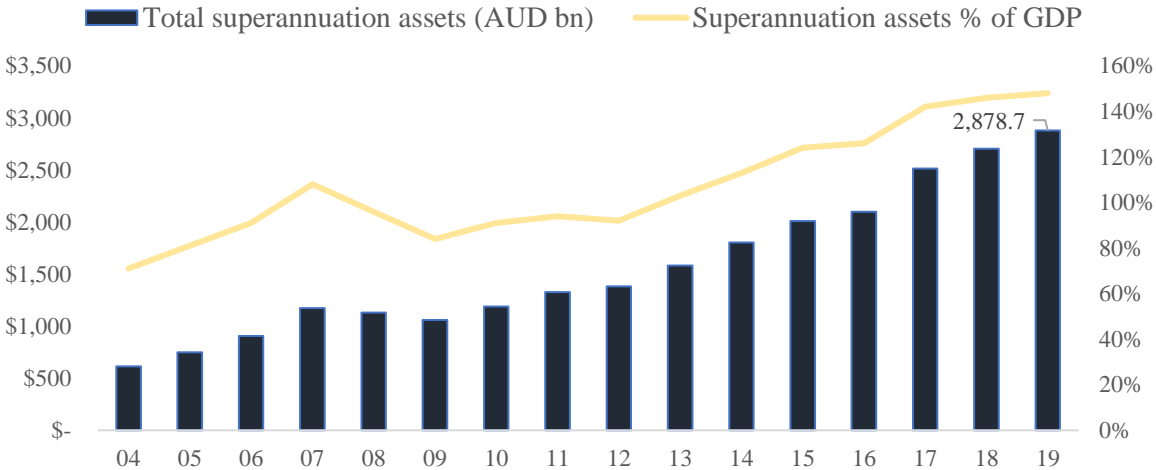
The private plan (a superannuation fund) may be managed by the employer, by an industry association, pension funds, or even the employee itself. These funds operate in a tightly regulated, still, free market, meaning pensioners can pick from a multitude of options to have their pension fund managed. Australia's system is designed in a way whereby the pensioner assumes total responsibility as well as the risks associated with investments or inflation. (Commonwealth of Australia, 2019).

Money locked in superannuation is only available for withdrawal once an individual reaches the preservation age, currently 57 years, however it increases gradually for people born after 1960, so that the minimum age is 60 for people born after 30th of June 1964 (Commonwealth

of Australia, 2019). Government has put the word that contributory rate will increase 0.5% per annum starting in 2021 and stopping at 12% by 2025. Besides working as retirement benefits source, the superannuation also works as death and permanent disability insurance, as citizens with an active superannuation account will have, by default those products (Australian Department of the Treasury, 2020).

4.2. Australian pension system in numbers

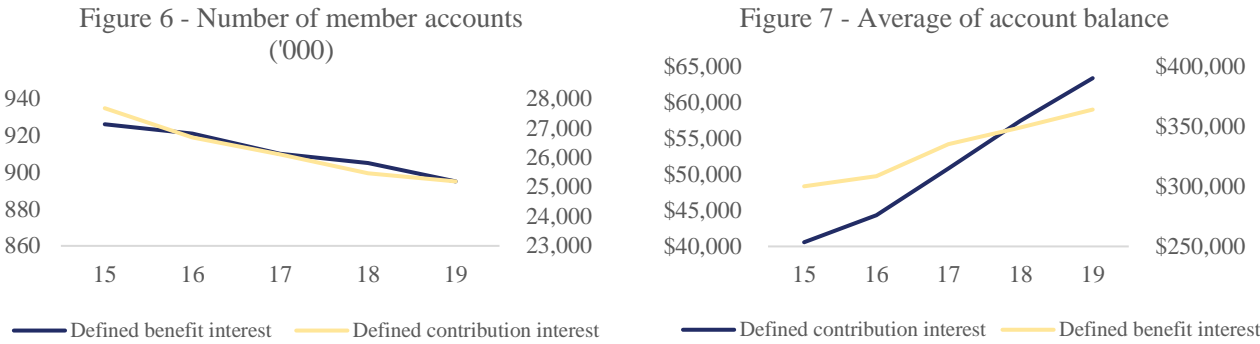
The maximum amount of the Age Pension is currently AUD 24,551.80 per year for singles, and AUD 8,506.80 a year for each member of a couple (Australian Department of the Treasury, 2020). Total superannuation assets increased to AUD 2,878 bn in June 2019, up from AUD 613.9 bn in June 2004. Superannuation also spiked relative to GDP in the same period as depicted in figure 5 below. Furthermore, (ASFA, 2020) projects significant asset growth until 2050 by when superannuation’s total assets will reach AUD 10 tn.



Sources: Annual Superannuation Bulletin June 2019; Note: Total Superannuation assets, in Australian dollars or AUD, is the asset value under management by private pension funds in Australia, Superannuation assets as % of GDP divides total superannuation assets in a given year by national GDP in the same year

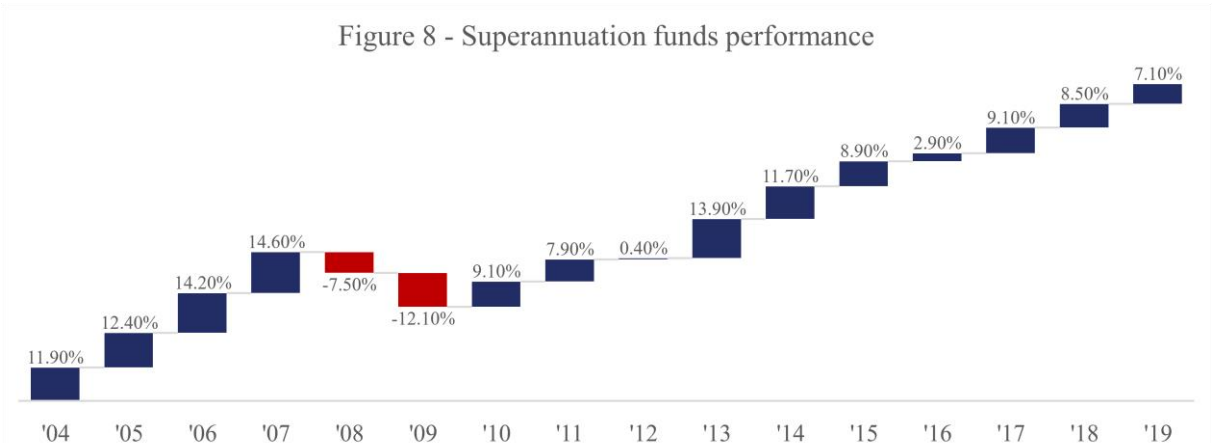
Number of member accounts reached 26,360,000 in 2019 with the lion share, (25,187,000) being inaccessible accounts to which active employees are still contributing and, 895,000 being account paying out benefits to pensioners. Between June 2018 and June 2019, AUD 326 m were paid out by superannuation funds while AUD 1,597 m was received in mandatory and

voluntary contributions. The average value locked in contribution only accounts was AUD 63,404 while in benefits accounts was AUD 364,226.



Sources: Annual Superannuation Bulletin June 2019; Notes: Number of member accounts defined contribution interest is the number of accounts paying a monthly fee to a private fund account whereas defined benefit is the number of retirees being paid a monthly value – same reasoning for average account balance

One key aspect of fully funded schemes is how efficiently pension funds’ managers capitalize the savings of contributors. When we look at the performance of superannuation assets, only in two years out of the period between 2004 and 2019, the return on assets was negative – 2008 and 2009, as a consequence of the deep financial worldwide crisis -, in the same period, average return on assets was 7.06%, figure 8 depicts yearly values.



Sources: Annual Superannuation Bulletin June 2019; Note: Yearly capital gain/loss on the invested assets managed by private funds

Concluding, table one summarises key comparison metrics between the two countries. Most importantly, contribution rate, capitalization and percentage of pensioner living below the poverty line should be noted. Firstly, Australia charges a substantially smaller rate than Portugal contributing to larger take home income, stimulating saving and consumption on one hand, as

well as making cheaper for employers to hire. Secondly, average capitalization gains between 2004 and 2019 was 7.06% in Australia, meaning that contributions from workers, did, on average, increase 7.06% per year just as a compensation for being invested. This incremental gain is null under the Portuguese system. Thirdly, despite a smaller contribution rate as well substitution rate, Australia still manages to have less pensioners below the poverty line as a percentage of total pensioners.

Table 1 – Key metrics comparison between Portugal and Australia

Metric	Portugal	Australia
Minimum retirement age	66 and 5 months	66
Contribution Rate	34.75%	9.5%
Substitutions Rate ¹	69%	43%
Average Pension Value	EUR 483 / month	EUR 1248 / month
Capitalization gains	0%	7.06%
Pensioners below poverty line	15.2%	9%
Poverty Line	EUR 501.16 / month	EUR 1041 / month

Sources: Eurostat, Pordata, ASFA, Superguide, INE, Grattan Institute, Australian Council of Social Service, Annual Superannuation Bulletin June 2019

So far, the paper has highlighted the differences between the Portuguese PAYG and the Australian Fully Funded systems – it was done so, in an attempt to evidence the noteworthy superiority of the Australian system in terms of sustainability and overall welfare – adding to the fully-funded supportive research, mentioned in section 2. In the next section, we introduce a popular case study on a transition from a PAYG to a Fully Funded system, the goal is to roadmap a possible pathway Portuguese policymakers could take in order to shield the pension system.

5. The Chilean transition as a case study

¹ Pension value as percentage of relevant income earned

Chile's transition from a pay-as-you-go (similar to Portugal's) to a fully funded system (Similar to Australia's) is widely regarded as a sound success and an exemplary path out of unsustainable PAYG structures – it led to the increase in pension benefits value, amplified savings and stimulated economic growth (Lagoa and Barradas, 2016; Leiria and Pereira, 2000). Lagoa and Barradas (2016), Barr and Diamond (2008) argue that such change in the pension system also helped develop the capital and labour markets – as of 2017 pensions funds exceeded 70% of Chile's GDP, up from 22.4% in 1990 (The World Bank, 2020) - which in turn had a multiplier effect in Chile's economic growth – as Portugal still presents suboptimal sophistication in capital markets (OECD, 2020), the move could, most probably, introduce this effect on the Portuguese economy as well.

Albeit the noticeable upside of the transition, one must also be aware that the shift is rather recent and thus, only partial effects have taken place, more proof of the system's success won't come before a generation is solely protected by the novel system. Even though, further research on the impact of the transition is entailed, Chile has witnessed recent pushes to new reforms in the country, as mentioned below.

All said, we dive into the transitional reforms in order to understand what Portugal can learn from Chile and possibly emulate a similar changeover - an acutely vital step to preserve retirement benefits for future generations.

5.1. The old system and reasons for shifting

Chile run a distributed pay-as-you-go pension scheme until 1980 – several occupational public pension funds would operate individually on a PAYG basis -, with time, much differentiated benefits started to appear across pensions due to background lobbying on public officials and corruption, intensifying public discontentment. Moreover, ageing of Chilean population contributed further to the fragility of its pension design - While in 1955 there was a 1/12.2

pensioner to active affiliates ratio, by 1980 the same ratio had changed to 2.5 (OECD, 1998). Due to these issues, government was forced to increase contribution rates - by 1974, they represented more than a staggering 50% of the worker's monthly income, which led to contribution evasion by a significant portion of the active population, diminishing further contribution revenues (OECD, 1998).

5.2. Transition Process

In 1981, Chile triggered a transition from a public pension system to individual private accounts with mandatory contributions. The transition from the old to the new system was facultative during the transition phase, up until 1983, year the old system was closed to new entrants. Chile's government took the bold step of issuing enough government bonds as well as nationalize valuable state assets in order to finance the shift from one system to the other – the proceeds from such operations were funnelled to the generation that would be out of retirement benefits as the younger generations started paying into their own private pension accounts (Lagoa and Barradas, 2016). To ensure the benefits of ceasing the public contribution rate would be passed to workers, employers were required to arrange an 18% wage increase at the time of reform (Rix, 1995).

After the transition, the system was split into a multi-pillar structure: (1) a minimum pension pillar providing a safety-net pension (in place since 1975 but very insufficient to provide financial safety to those with low lifetime earnings or short contributory background (Barr and Diamond, 2016)), as a consequence of public discontentment it was reformed in 2008), (2) a fully funded defined contribution system with individual private accounts managed by designated entities and, (3) a voluntary option for contributors wishing to enlarge their pension plan. The first pillar provides workers with an old age public pension if they have contributed for at least 20 years and their income falls below the minimum pension – these transfers are guaranteed by the state budget (Iglesias-Palau, 2009), similarly, to the Australia Age Pension

pillar. This pillar has been criticized for falling short in protecting low income citizens, Chile pension spending stands at 2.8% of GDP which is fairly low when compared with the 7.7% average in OECD countries (OECD, 2019).

The second pillar is a fully funded defined contribution system, with a mandatory contribution of 10% paid by the employee, on top of this, there is also a 1.5% rate to fund death and permanent disability insurance. Employees may disburse their contribution into a myriad of pension funds operated in a free market (Administradoras de Fondos de Pensiones), regulated by the government – by law, these funds are obliged to show profits, any shortfall must be met with the AFP's investment reserves, if insufficient the state jumps in and fronts the difference, the fund is dissolved and contributors are free to change pension provider (Rix, 1995). This pillar is only compulsory for regular employees, self-employed citizens are not mandated to contribute. Lastly, Chile also offers a voluntary savings pillar for people wishing to enlarge their future benefits. More recently, Chile introduced a higher safety net on its solidarity pillar, to be applied to the 60% fraction of the poorer people in the country – the benefits are since 2011 fixed on USD 587 per month (Fajnzylber, 2019).

As a whole, the system ranks well on defending the system from political interference, keeping the sustainability of the system as well as stimulating capital markets. On the other hand, it ranks poorly in terms of administrative cost, as these are extremely high in the Chilean pension system and ought to be more tightly controlled (Diamond, 1993). Another downside that has been spotlighted is how the system fails to address workers in informal sectors, estimated to be up to a 29% of the population (Henriquez, 2019), paying close to nothing throughout their lives and still requiring retirement benefits. In addition, in the Comisión Asesora Presidencial (2015), report, an executive commission tasked with evaluating the Chilean system highlighted inadequate pensions – as Chile displayed approximately 35% of substitution rate, significantly below OECD average (OECD, 2019).

5.3. Lessons to Portugal

Even though Chile and Portugal differ in terms of economic development and social context, enough parallels can be drawn to understand it is, in fact, worthwhile to reflect about Chile's transition and how it can be replicated in Portugal: Both countries had/have (1) an unsustainable PAYG system close to permanent deficits, (2) unsophisticated labour and capital markets, (3) low saving levels, (4) high contribution rates and (5) notable levels of public mismanagement. Despite the fact that the Chilean transition has been regarded as a sound success, we should also learn from Chile's mistakes and improve the following points: (1) combat the informal economy to ensure everyone contributes to a legal and decent pension, (2) have a more generous basic pension aligned with average public-spending/GDP of OECD countries, (3) tighter scrutiny on investment decisions by pension funds, forbidding the accumulation of unjustified profits and (4) combat the accumulation of capital at the hands of a few pension funds controlled by the same people.

6. Conclusion

The paper has focused on three key points: (1) the faulting Portuguese system, (2) the robust and sustainable Australian system and (3) the recent and well-regarded Chile's transition from a PAYG system to a fully funded. In previous sections, it has been exposed the fragility of the Portuguese system as well as the robustness of the Australian - major goal being, to draw attention to the long-term upside of a fully funded structure -. Despite lagging in terms of substitution rate, Australia has a smaller pension contribution rate, stimulating labour markets as well as take home income for citizens, it is able to protect more citizens from falling below the poverty line and it is partially immune to age-based shocks in the population. Furthermore, the paper exhibits the transition Chile went through, a clear case that a shift is politically possible and financially desired, hopefully this will add to the debate on how Portuguese policy makers shall go about reforming the system. Key lessons have been highlighted in an attempt to avoid

Chile's mistakes with the transition and guarantee the smoothest possible transition path for Portugal – the latter ought to have strict investment regulation for pension funds and control public mismanagement to dodge Chile's wrongdoings.

Nevertheless, the paper lacks proprietary data analysis and has leveraged existent data and research in order to expose why a transition might be welcomed. This said, and as previously stated, research ought to be swelled with the intention off better predict the outcomes and understand the desirability for the Portuguese society to shift towards a funded pension structure, or at least, partially funded with a multi-pillar approach, as suggested by the World Bank. For example, a simulation approach akin to that of Manso (2018) would be much welcomed, to analyse a transition from the current state of the system to a fully funded structure. Moreover, the Chile's postreform situation has yet to be studied in its entirety and therefore, ought to be a focus point for the research community interested in this subject.

All in all, the dissertation provides food for thought meant at specialized researchers on the topic, brings forward a somewhat neglected possibility of transition and contributed to the body of research at hand of policymakers.

7. Appendix

Appendix 1 – Key characteristics of a fully funded system versus a public pay-as-you-go

Private Fully Funded	Public PAYG	Transition Difficulty
Monthly amount paid to a privately managed account	Monthly amount paid to a government body	A new industry of privately managed funds must emerge and be regulated
Amount paid by an individual is domiciled in an individual account throughout contribution timespan	Amount paid by an individual is immediately used to pay current retiree pensions	State must seek alternative financing mechanism to pay the retirement benefits of one entire transition generation
Individual contributions are invested in the capital markets and withdrawn upon retirement	Individual contributions are used to pay current retirees' pensions	N/A
Individual have the economic freedom to choose which institutions manages their money	Individual is obliged to pay the government	N/A
Contributions saved and in invested in the capital markets are subject to market risk	Retirement benefits are in theory guaranteed by the government	N/A
Weaker redistribution of income	Stronger redistribution of assets	State ought to seek other mechanism to fight income inequality
Immune to age-based shocks	Very prone to stress situations in inverted age pyramids	N/A

Source: Author's work

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