PENSIONS FOR ALL: TOWARDS AND INCLUSIVE AND SUSTAINABLE SYSTEM FOR ARGENTINA

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EXECUTIVE SUMMARY

Argentina’s pension system has two structural flaws. In the first place, it has not been financially sustainable for the last 35 years and prospects are even more worrisome when considering the expected aging of the population. In the second place, it generates perverse incentives to being informal in a country where informality already represents about 35% of the workers. In turn, the dynamic implication of increasing informality is that the tax base financing the system is eroded further undermining sustainability.

This policy report proposes a two dimensional policy that addresses both issues. First, the adoption of a new pension system, which consists of two pillars: a flat unconditional, universal transfer and an optional, individual capitalization scheme. Tax benefits and other policy levers may be used to incentivize adherence to the latter. The proposed scheme enhances incentives to being formal as labor taxes are gradually reduced to zero. Moreover, it allows workers to smooth consumption by contributing to optional individual accounts.

Second, we recommend a fiscal reform to alleviate the cost of the transition composed of the following: (i) an increase in income tax revenues by 10% from current levels (ii) a reduction of energy and transportation subsidies to their historical levels of 2% of GDP and (iii) a gradual reduction of labor taxes, taking them to zero in a period of about 20 years. We compare the expected fiscal results of the status quo with that of our policy package. We find that the current system implies a deficit of 0.5% of GDP today and increases steadily to reach about 5% in 2060 remaining at that level thereafter. Whereas our proposal generates a surplus until 2030, that then turns into a deficit of 3% of GDP by 2050 and then reverts to a surplus by 2070. Moreover, our reform implies a reduction in the federal tax burden of about 6 percentage points of GDP.

Finally, we show that not adopting our proposal actually entails significant political costs because it would imply to drastically rise the age of retirement or the labor taxes. On the other hand, various features of our proposal- like the preservation of benefits of current retirees and reduction of labor taxes- makes it politically supportable.
I - INTRODUCTION

The pension system has brought far more distress than relief to Argentina in the twentieth century. Seldom were the years in which the pension system was self-sustainable and even fewer the ones in which it provided adequate benefits to the elderly. The Argentine pension system has been in deficit for more than 35 years now, which explains why more than 30% of the pension system spending is financed with general taxes. But this doesn’t imply, however, that benefits are high: they are currently only about 40% of pre-retirement wages. The unsustainability of the system becomes more worrisome when considering the expected aging of the population: the old dependency ratio -the elders above retirement age as a proportion of the working-age population- is forecasted to grow from 30% to almost 40% in 20 years for women and from 12.5% to almost 20% for men. In 2050, the ratios are supposed to be 48% and 23% for women and men respectively.

But the financial deficit is not the only flaw of the pension system in Argentina. In a country were informality represents about 35% of the workers the current system gives very perverse incentives to informality because by taxing heavily formal jobs. To make matters worse this extension of pension benefits adds to a trend of cash transfer adoptions like the popular Universal Childhood Allowance (a per child monthly transfer which is not conditional on being employed), reducing the benefits to being formal further more. Given that now most social benefits are universal the incentives of contributing are falling substantially: a worker has to pay a very high tax rate (21% considering firms and employees contributions) to only get a benefit of about 40% of the average wage.

Considering the aforementioned problems, this document proposes a structural change to the Argentine pension system. First, we propose the adoption of a flat universal transfer for the elderly. Second, our proposal includes the gradual elimination of the labor contributions to the pension system, which instead are going to be financed entirely from general taxes. Third, we propose the inclusion of a second pillar that is optional and would work as an individual capitalization scheme managed by a centralized fund. Finally, we propose a fiscal reform to alleviate the cost of the transition from the status quo to the proposed scheme.
Our financial simulations show that if the status quo is not modified the fiscal deficit of the system will be explosive, reaching 2% in 15 years and 4% in 2050 only when considering contributory pensions\(^2\). If the Government wants to keep the current system in place but partially reduce its deficit it would have to change parameters of the system that would entail a very high a political cost. For example, rising the retirement age of men from 65 to 70 and women from 60 to 66 or increasing the labor and firm contributions by 50% would postpone the fiscal problem to 2050.

Regarding the fiscal reform we propose to ease the transition, we show how a combination of an increase of 10% in income tax revenues and a reduction of subsidies to their historical levels of 2% of GDP (from the current 4.5%) would cover the entire transition cost. Furthermore, even considering the increase in the income tax rate the tax burden would fall by about 3 percentage points in 10 years due to the gradual reduction (and subsequent elimination) of labor contributions.

In a few words, the pension system represents an ever-growing fiscal pressure on the Argentine economy with the additional consequence of providing pervasive incentives to labor informality. The pension system design that we propose significantly improves on the status quo in both dimensions.

**II - BACKGROUND**

**RECENT TRENDS ON PENSION REFORM IN OECD COUNTRIES**

Pension systems around the world are constantly evolving as they respond to structural changes in demographics, labor market developments (like later entrance to the market due to longer studies) and declining trends in family sizes among others. As evidenced by a recent OECD study (OECD, 2013) - which shows that all 34 OECD countries introduced some sort of reform to their pension systems between 2009 and 2013 - pension system reform is not only an issue of the developing world but a problem that all countries have to deal with as populations

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\(^2\) If non-contributory pensions like disability subsidies were included in the estimations it would be considerably higher
become older.

In this context average public pension spending is forecasted to increase from 9.3% percent of GDP in 2010 to 11.7% of GDP in 2050. Even considering that, in the same 34 OECD countries public pensions is many times the largest single item of total spending, averaging 17%. In Argentina it’s larger: the pension system accounts for 35% of total government spending. Also, public spending on pensions increased on average 27% more than GDP between 1990 and 2009 in the same OECD countries. The increasing trend on public expenditure on pensions is partly explained by a reluctance to increase the level of contributions, which have remained almost unaltered in the last decades. The main reason why governments have been assuming the responsibility of paying for the increase in coverage is that they are rightfully concerned about the distortionary effects of taxes on the labor market. In a context of increasing demographic pressure and contribution levels that have a close ceiling, the pension expenditure item in the budget will necessarily have to expand.

The reforms that OECD countries undertook in the last decade have been designed to address the two main challenges that they have been facing, namely financial sustainability and limited coverage. Countries that are dealing with fiscal issued adopted measures to alleviate the pressure of the pension system. Greece an Ireland, for example, have revisited the calculation of benefits, whereas Italy switched from a defined benefit to a notional system. For example, Czech Republic, Hungary and Norway eliminated the indexation of pensions to wages growth. Others, like Austria, Greece, Portugal and Spain, have frozen automatic adjustments for everyone except for the lower-income sectors. Also, some countries in Central Europe changed the split between private and public systems to diversify the sources of funding. (OECD, 2013)

A second dimension of reform has been focused on increasing the proportion of the population that is covered by the pension system partly in response to weaknesses that many systems have proven by design. Countries like Chile, New Zealand and Italy have increased coverage to sectors of the population that have been mostly were left aside. For example, as from 2011 Chile increased the coverage of its public solidarity pension system to cover the 60% poorest elderly (Arenas de Mesa, 2005). Also, many countries have adopted policies to increase the
participation of targeted groups: family-careers in Austria, researchers in Finland and maternity in France and also low-income workers in the US and Chile. Some countries have even decided to introduce automatic enrollment into private voluntary plans on the efforts to increase coverage like Italy, New Zealand, UK and Ireland.

Another type of reform policies that has been adopted is introducing voluntary pension plans and changes in regulations to diversify investment options. Finally, providing monetary incentives to work after retirement and reducing or eliminating early retirement options has helped increased average retirement ages.

As fiscal pressure on the pension systems increases and as coverage is broadened to include sectors of the population that have contributed little to the pension system, post-reform replacement rates (the ratio of pension entitlement to pre-retirement income) are now lower in most OECD countries.

**RECENT TRENDS ON PENSION REFORM IN LATIN AMERICA: COVERAGE EXPANSION**

Latin America has had a history of low pension coverage partly because of the challenge that high informality poses in the context of contributory systems that, by definition, only cover salaried workers. In response to this problem, according to Rofman et al. (2014) at least 18 countries in Latin America have introduced reforms aimed at expanding the coverage of the elder between 2000 and 2013. Forteza et al. (2011) shows that in Argentina as well as in Chile and Uruguay the number of years of contributions is low and typically much interrupted. This pattern is observed in most countries in the region which in turn explains why so many of these countries have opted for introducing reforms to expand coverage, as Figure 1 shows.
Figure 1 – RECENT REFORMS IN THE PENSION SYSTEM

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**Source:** Based on information from chapters 2 to 15 of this book and information from social security agencies in the region.

**Note:** AR = Argentina; BO = Bolivia; BR = Brazil; CL = Chile; CO = Colombia; CR = Costa Rica; EC = Ecuador; ES = El Salvador; MX = Mexico; PA = Panama; PE = Peru; PY = Paraguay; T&T = Trinidad and Tobago; UY = Uruguay.

Source: Rofman et al. (2015)

In the case of Argentina the expansion from 55% of the elder in 2005 to approximately 90% in 2012 was achieved through a moratorium in 2005. But because of the nature of the moratorium—that consists of paying pensions to elder that haven’t contributed enough years to the system—this expansion came at the expense of a lower adequacy ratio between contributions and pensions for those who contributed and an increase in the portion of pension system funding that has to be taken from general taxes as opposed to contributions.

**A BRIEF HISTORY OF THE ARGENTINE PENSION SYSTEM**

The country has been through four very different systems in the last century suffering two major structural reforms in less than 15 years. Argentina’s social dates back to the end of the 19th century when the coverage of teachers and public employees was guaranteed by law, making Argentina a world pioneer in the matter. Figure 2 shows the various structural changes that the Argentine pension system has been through.

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3 Since 2005 many moratoriums have been implemented in order to include people that didn’t fulfill the requirements to get a pension (for example, they worked most of their lives informally).

4 See Appendix D for an explanation of a particular case that may be relevant for Argentina: the case of the Chilean Reform.
Figure 2 – THREE STRUCTURAL REFORMS IN HALF A DECADE: A HISTORY OF THE ARGENTINE PENSION SYSTEM

1904-1955
- Public Workers & Rail workers pension funds.
- Significant expansion in pension funds.
- Heterogeneity in contributions, benefits and eligibility.

1955-1984
- Centralization of funds into National Pension System.
- Benefit linked to wages.
- Increase in contributions.
- Elimination & reintroduction of firms contributions.

1994-2007
- Reform to mixed contributive system.
- Introduction of private fully-funded option.
- Increase in age requirement.
- 2005 moratorium to expand coverage.

2008-2010
- Elimination of capitalization pillar and nationalization of private capitalization funds.
- 91% of elderly receive a pension.

Source: Own elaboration

The big push in the pension system really came in the forties with a huge expansion of the number of pension funds to include most of the unionized sectors of the economy. All these funds had very different contribution and benefits schemes as well as different eligibility criteria, which resulted in significant heterogeneity among the various pension funds. In 1955 a nationalization of all the diverse pension funds into one state pension system was introduced. Following this reform and through most of the second part of the century Argentina had a pay-as-you-go system funded from wages contributions from both firms and employees.

A major structural reform was introduced in the nineties, partly in response to the deficit and lack of sustainability of the system. All non-contributory schemes that were financed with funds of the pension system were eliminated in 1991 together with a partial unification of the requirements of the system and an increase in the contributions required for both employers and employees. In 1994 the “Integral Pension System” (SIP in Spanish) was established as a two pillar system: the first one was a pay-as-you-go State-administered scheme that paid a basic flat universal pension (PBU in Spanish) and the second one a mixed system in which
employees could choose between a public pay-as-you-go pillar or an individual fully-funded private pillar.

The reform of the nineties didn’t solve the sustainability problem: it worsened it and was therefore criticized since the very beginning for many reasons. First, the fully funded pillar never worked as expected (management fees were too high and returns too low). Second, the transition implied a very significant fiscal cost (Gragnolati et al, 2014).

Perhaps more importantly, as in Chile, the Argentine mixed system also failed to deliver a reasonable coverage level. In order to tackle this problem a moratorium (that would be repeated again in 2010 and 2014) was introduced in 2005, which allowed the elderly that did not fulfill the requirements to be eligible for pension benefits. This expansion of benefits added fiscal pressure to a system that was already partly being funded by general taxes.

A third structural reform was introduced in 2008 when the Congress approved the nationalization of the private funds ending with the previous mixed system. In the current system workers and firms contribute a proportion of wages, and benefits are calculated as a function of a number of variables including contributions, years of service, wage index, and other parameters decided by the national administration of the social security system (ANSES in Spanish).

**GENERAL CHARACTERISTICS OF THE CURRENT PENSION SYSTEM**

**CONTRIBUTIONS**

Social contributions are quite high in Argentina. Firms have to make contributions equivalent to 17% of wages to the National Social Security System of which 10.7% are purely pension contributions\(^5\). Firms also have to pay an additional 6% for health insurance adding to a total labor tax of 23%. In the case of employees they must pay 11% of their wage for pensions and an additional 6%, totaling 17%.

\(^5\) For a more detailed description of contributions please refer to the Appendix B.
Benefits and Coverage

Benefits in the current system can be divided into three distinct cases: those received by salaried workers that contributed at least 30 years to the national pension system (SUP in Spanish), registered self-employed workers, and workers that haven’t contributed the required number of years to qualify for a standard pension. Salaried workers – as explained above – pay a proportion of their monthly wage. Self-employed workers – if registered – pay a fixed amount per month to the pension system regardless of their monthly income.

The benefit for those salaried workers who qualify for a standard pension (basically, those who have more than 30 years of contributions to the system and are 65 and 60 years old in the case of men and women respectively) receive a flat universal pillar (called PBU in Spanish) and a second pillar that is proportional to their past salaries and years of contributions as shown in Figure 4. Pensions are adjusted biannually for inflation following a pre-established formula6. In any case, the pension they receive must not be lower than the defined minimum pension and higher than a defined maximum pension. It is worth to note that the minimum pension is not the aforementioned universal pillar (PBU). As from March 2015, the minimum pension is US$ 439 (or ARS $3,821) and the universal pillar is US$ 207 (or ARS 1804).

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6 See the Appendix for the adjustment formula that follows from the “Ley de Movilidad Compensatoria” (a law automatically updates benefits for inflation).
In the case of elderly who were registered as self-employed they receive the minimum pension. There are many workers that worked some years as registered salaried workers and some years as registered self-employed. In those cases the pension is calculated as a weighted average of the two types of pensions.⁷

It is also worth mentioning that after the moratoriums were implemented many workers that did not fulfill the requirements to receive a benefit were included to the system and now get a minimum pension leading coverage to reach about 90% of the elderly.

### III DIAGNOSIS OF THE SITUATION

#### THE SOLVENCY PROBLEM

The pension system has been in deficit for more than 35 years now⁸ because of a combination of various factors. In the first place, like in most countries of the world, demographic changes

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⁷ For a detailed explanation of the formulas, please refer to the Appendix A.
⁸ OIT (2011).
add pressure to the system. The elderly (older than 65) has increased from 0.7 to 3.7 million in the second half of the 20th century and it is projected to be 9.7 million in 2050\(^9\). The problem lies in that this increase was not matched by an increase in the working age population of the same proportion mostly because of a fall of the birth rate from 3.2 to 2.4 in the same period and which is projected to reach 1.9 in 2050\(^{10}\). Hence the dependency ratio\(^{11}\) drastically increased between 1950 and 2000 and it is projected to keep increasing (CELADE, 2013). Moreover if only the formal labor force is considered - from which contributions are funded - the ratio is estimated to be about 1:2 (one retiree per every two workers).

Figure 5 – A LONG HISTORY OF THE PENSION SYSTEM IN DEFICIT

In the second place, the expansion of coverage to elderly that didn’t qualify for one further increased the imbalance between revenues and spending of the system. Although this effect may appear to be of second order it does indirectly imply increasing expenses for the future as the dependency ratio increases over time.

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\(^{10}\) Cetrangolo et al. (2011).

\(^{11}\) The dependency ratio refers to the number of inactive people as a proportion of the active people. In our case we use the “Old Dependency Ratio” which is the number of people in age of retiring (>60 for women and >65 for men) divided by the people in age to work (between 18 and 60 for women and between 18 and 65 for men).
In the third place, notwithstanding the fact that coverage has reached 90% of the elderly following the moratorium introduced ten years ago, the size of the benefits that retirees receive is typically significantly lower than what they are entitled to. The average pension amounts to 40% of the average wage and 73% are only paid the minimum pension (OIT, 2011). This is reflected in the more than 500,000\textsuperscript{12} lawsuits against the governmental organism in charge of calculating and paying the benefits (ANSES in Spanish), which are typically lost by the Government. The obvious question that follows from this analysis is how is the system currently being financed, to which there is no simple answer, given the lack of updated information. Estimates indicate that about 40% of the system funded by general taxes as opposed to contributions (Cohan et al., 2012).

\begin{boxedtext}
In 2006-07 the Supreme Court ruled in favor of now famous retiree “Badaro” who demanded such an adjustment of his pension. This case is now used as a precedent for every lawsuit filed against the State on this matter. As a result, the Government keeps accumulating contingent liabilities that eventually will have to be paid. Unofficial calculations with the last data available indicate that in 2011 each of he lost lawsuits was worth about USD $ 15,000 on average and the number of lawsuits per year was growing at a rate of 10,000 per month at that time. This means that the actual deficit of the system is considerably higher than what the official figures show as those don’t include the contingent liabilities generated by these lawsuits.

Finally, it is worth noting that – given the demographic projections the fiscal imbalance of the system will probably worsen each year. As we show in Figure 6 the expected dependency ratios will drastically increase for Argentina in the next decades, which in turn will heavily dampen the sustainability of the current pension scheme. Figure 7 shows how the deficit of the current system will look like in the future according to our estimations.\textsuperscript{13}
\end{boxedtext}

\begin{flushleft}\textsuperscript{12} http://focoeconomico.org/2012/08/12/algunas-consideraciones-sobre-la-situacion-fiscal-actual/ (in Spanish)\end{flushleft}

\begin{flushleft}\textsuperscript{13} Please refer to the Appendix A for a more detailed explanation of the model we built to do the forecast and the assumed parameters.\end{flushleft}
Figure 6 – OLD DEPENDENCY RATIOS IN ARGENTINA

Source: Own elaboration based on CELADE (2014)

Figure 7 – PROJECTED DEFICIT OF THE CURRENT SYSTEM

Source: Own elaboration
THE INFORMALITY PROBLEM

The second pressing issue related to the pension system is particularly relevant in Argentina is informality, which was estimated to be between 33%\textsuperscript{14} and 39%\textsuperscript{15} in 2013 depending on the definition of informality used.

**Box 2. What do we know about pension systems?**

There is no consensus on optimal pension systems. Economists support different systems depending on the context and history of the country in question. Bosch et al. (2013) provide a rich description of the systems currently in place in Latin American and argue in favor of the adoption of universal coverage, particularly because of the positive impact that it would have on the labor markets in a region characterized by high informality. In the same line, Villagomez et al. (2013) estimate the effect on different economic and social variables of introducing a Universal Coverage system in Mexico and find very significant effects in terms of reduction of informality. This view is also supported by Bergolo and Cruces (2014) and by Cohan et al. (2011) for the cases of Uruguay and Argentina respectively.

There are many different drivers of informality- a comprehensive analysis escapes the scope of this report- but many of them are strongly related to the structure of incentives that the pension system generates. The first and most obvious relationship stems from the fact that the existence of contributions generates disincentives for firms and employers to being formal. This is most starkly true for employers who have to pay a very high labor tax. But it also applies to employees who mostly perceive contributions as a tax because of their high uncertainty about the size of the benefits they will receive in the future.

In the second place, if we consider the fact that many people who haven’t contributed are now entitled to a pension as per the moratorium, the incentive to being formal for the employee is even lower. The workers knows that she will most likely eventually be able to get pension benefits without paying for them.

\textsuperscript{14}SEDLAC (2014) according to legal definition.
\textsuperscript{15}SEDLAC (2014) according to productivity definition.
Furthermore, Argentina has recently introduced social programs that are not conditional on being formal (or even having a job) like Conditional Cash Transfers ("Universal Allowance per Child", or AUH in Spanish). These universal programs -which definitely have huge positive effects on poverty reduction-, have also the effect of reducing the incentives to being formal by lowering its relative advantage over informality. In this context a pension system that doesn’t reward formality results in a dangerous incentives combination. The worker is caught in a situation in which being formal has hardly any benefit because he can now receive all of the social programs regardless but both him and employers face the cost of paying contributions.

The dynamic implication of such an incentives scheme is that, as informality increases, the base from which the system is financed falls. At the same time, because of demographic pressures and the expansion of coverage, the population that receives the benefits is increasing. Therefore the issue of informality is not only a problem per se, but also a problem that adds to the solvency one exposed before. To make matters worse the aforementioned pervasive incentives to informality are introduced in a country characterized for historically having a high proportion of labor in the informal sector (see Figure 8).

![Figure 8 – INFORMALITY RATES IN ARGENTINA](image)

Source: Own elaboration based on SEDLAC (2014)
IV- POLICY PROPOSAL

There is no such thing as a perfect pension system as there is no system design that meets all the desirable characteristics of an ideal one. Trade-offs between different features are indeed very hard to avoid. However, given that the economic, social and demographic structures of countries are very different, designs that favor some features over others are better suited for countries that need to deal with those issues in particular. In other words, some pension system designs are better suited for some countries than others. Which system is best suited for each country is best informed by studying its economic and demographic structure, the main challenges that the current pension system is facing and past experiences that can illuminate what could potentially go wrong. In the case of Argentina, as we pointed out before, there are two problems that appear especially relevant: (i) the high levels of informality and (ii) the unsustainability of the current system.

Today Argentina has a pay-as-you-go system that is not working as it stands. In the first place, it needs about 30% of financing outside payroll taxes (Cohan et al., 2011) and the financial prospects for the coming decades are even more worrisome. In the second place, the financing base of the system is only the formal sector of the economy, which is between 60% and 70% depending on how it is calculated\(^\text{16}\). Finally, as it has been explored above, the system creates perverse incentives to formality. Because of all these reasons we are argue that structural changes need to be made to the pension system as it stands today and the pay-as-you-go model is not well suited for the economic structure of Argentina. In particular, Argentina needs a pension system design that is less dependent on formal labor and demographics.

In considering the viability of the fully funded is of paramount importance to consider the failed experience of the Argentina with this system during the nineties. Even though this type of system is the best suited to deliver higher saving rates which \textit{ceteris paribus} leads to higher economic growth, the cost of transitioning to this system was so high that it is even regarded as one of the major causes of the economic crisis of 2001 by some economists (Hausmann and Velasco, 2002). Moreover, even in Chile (which has become the leading world example of the

\(^{16}\) See Tornarolli and Gasparini (2009) for a better description of this.
success of such a scheme) the fully funded system has failed to deliver adequate coverage and thus a universal basic pension has been introduced recently among other measures to deal with this and other various flaws. Please refer to the Appendix D for a more detailed discussion of the case of Chile.

We argue that a structural change of the pension system should be adopted. We propose the adoption of a pension system that consists exclusively of a non-contributive universal transfer first pillar and an optional individual capitalization scheme pillar. The pension system would be funded by general taxes as contributions are gradually reduced to zero. Additionally we propose to use other fiscal levers to increase income tax revenues by 10%, reduce subsidies to energy and transportation to historical levels of 2% of GDP (now in 4.5%) and use the capital stock of the “Sustainability Fund”17 (FGS in Spanish) to ease the cost of the transition. This policy package solves both the informality and the solvency problem. Figure 9 sums up our policy proposal.

**Figure 9 – THE POLICY PACKAGE**

**Pension Reform**
- Pillar 1. Universal transfer for the elderly
- Pillar 2. Optional individual capitalization scheme
- Retirees and current workers: weighted average of their entitlement as per their contributions and Pillar 1.

**Fiscal Reform**
- Pension system is funded by general taxes and contributions are gradually reduced to zero
- Increase income tax revenues by 10% and reduce subsidies to historical levels (2% of GDP)
- Use FGS funds to ease the transition

**Source: Own elaboration**

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17 When the pension system was re-nationalized in 2009 all the individual accounts of those that had chosen for the fully-funded system were transferred to the Federal Government who used the money to launch a fund called “Sustainability Fund” that is invested in the capital markets.
**PILLAR 1: A UNIVERSAL TRANSFER FOR THE ELDERLY**

**WHAT IS A UNIVERSAL TRANSFER FOR THE ELDERLY?**

The Universal Transfer for the Elderly (*AUV* in Spanish) consists of an unconditional flat cash transfer (equal for everyone) for all Argentines that belong to the current retirement age, this is men older than 65 and women older than 60.

**WHY DO WE PROPOSE A UNIVERSAL TRANSFER FOR THE ELDERLY?**

The Universal Transfer has the following features by design:

1. **Reduces the dependency of the system on demographic variables and thus it’s more sustainable**

   First, it is more sustainable because it promises a small flat pension for everyone instead of a pension that depends on the contributions. Second, given that part of our proposal is to finance this transfer with general taxes instead of labor contributions, the burden doesn’t fall on the working-age population and thus it is not heavily affected by the old-age dependency ratio.

2. **Reduces incentives to labor informality**

   By reducing the contributions from wages that firms and employees have to make the cost of being formal *vis-à-vis* being informal is reduced.

3. **Eliminates poverty among the elderly and is inclusive by definition**

   It would also eliminate poverty among the elderly because by design the amount of the transfer is equal to the value of the basket that is needed by an elder to be out of poverty. Moreover, it is more inclusive that the current system because only a small portion of the workers actually fulfill the requirements to get the benefits at the retirement age (about 60%). This is why the moratoriums have to be regularly implemented under the current system: because otherwise too many retirees would be uncovered. In our system inclusion is automatic, anyone that fulfills the requirement age is eligible to get a pension.
(4) Reduces the dependency of the system on formal labor

Apart from significantly reducing incentives to being informal the scheme doesn’t have the problem of funding itself only on formal labor. General taxes, like VAT, are levied on the entire economy.

HOW WOULD THE UNIVERSAL TRANSFER FOR THE ELDERLY BE IMPLEMENTED?

(1) Calculating the Universal Transfer

Every month the National Institute of Statistics of Argentina (INDEC in Spanish) publishes the price of a basket of goods that a typical person needs to be out of extreme poverty. The basket is composed in a way that - if consumed - would cover all the calories needed by an adult man (or equivalent adult). This basket is then adjusted by a factor smaller than one to get the caloric equivalent basket for people of a different age or gender (an older woman, for example, represents 0.61 adult equivalents). The price of any of these baskets is revised monthly to account for inflation. Any person who has an average income that is lower than the price of her corresponding basket would be in "extreme poverty".

This number is again adjusted by a coefficient to calculate the price of the "poverty basket" which basically adds other goods and services. Any person who has an average income that is lower than the price of her corresponding basket is said to be in poverty. In order to calculate the amount of the Universal Transfer for the elderly (AUV) we calculate the price of the "poverty basket" for an elder. According to official data an old woman represents 0.61 of an equivalent adult and an old man represents 0.82 of an equivalent adult. In other words, any

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18 To see more details please refer to this official document (in Spanish):
19 An elder - for example - consumes less than the typical adult and hence the amount of money that an old man needs to survive (i.e., not starve) is different from the one that an old woman or a young man need.
20 The adjustment coefficient is the "inverse of the Engel coefficient" (a factor greater than one which is equal to \( \frac{\text{Expenditure in Food}}{\text{Total Expenditure}} \) ^ \(-1\).
21 Since 2007 the official statistics of prices are not reliable. For more information please refer to the IMF Statements:
https://www.imf.org/external/np/sec/pr/2013/pr13497.htm Therefore we use private estimations of inflation (www.inflacionverdadera.com) to calculate the price of the basket.
man or woman whose only income is the AUV would be exactly above the poverty line. It is important to note that the AUV is not related to the current PBU (mentioned in Figure 4) nor to the minimum pension offered under the current system. The AUV – unlike the current PBU and minimum pension - is exclusively calculated using the poverty line as the main parameter.

(2) Calculating benefits for retirees and workers that contributed to the current system

For our pension reform to be well received and for it to be fair it is important to establish the criteria to calculate the benefits of (a) the current retirees and (b) the workers who have contributed a positive number of years to the current system. We propose the following benefits payment scheme.  

**TABLE 1 – BENEFITS FOR CURRENT RETIREES AND WORKERS**

<table>
<thead>
<tr>
<th>Number of years of contributions to the current system</th>
<th>Benefit entitlement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thirty or more</td>
<td>- Current benefit scheme</td>
</tr>
<tr>
<td>Less than thirty, but greater than zero</td>
<td>- Pillar 1: Weighted average of (i) the benefits under the current system and (ii) the AUV, using the number of contributed years to the current system over thirty as weight.</td>
</tr>
<tr>
<td></td>
<td>- Pillar 2: Optional individual capitalization account</td>
</tr>
<tr>
<td>Zero</td>
<td>- Pillar 1: Universal Transfer</td>
</tr>
<tr>
<td></td>
<td>- Pillar 2: Optional individual capitalization account</td>
</tr>
</tbody>
</table>

**Source: Own elaboration**

**DOES PILLAR 1 SOLVE THE INFORMALITY PROBLEM?**

There is broad empirical evidence that shows the linkages between (a) contributory pension systems and informality and (b) extending pension benefits to sectors of the population who

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22. For a discussion of why we decide to tie the transfer to consumer prices and not to labor productivity please see Section X. Limitations and other considerations.

23. Please refer to the Appendix A for a detailed explanation of the formulas we use to calculate the benefits of the soon-to-be retirees.
have not contributed to the system and informality. Heckman and Pagés (2004) find that in a panel of countries a 10% increase in social security contributions is associated with a fall in salaries of 3.6% and a fall in employment of 4.5%. In another study, Kugler and Kugler (2009) look at a panel of Colombian firms and find that 10% increase in social contributions is associated with a fall in formal employment of 5%. Betcherman and Pages (2010) get similar results for Turkey, a country that is characterized by high levels of informality. The authors find that a reduction in social contributions was associated with an increase in job creation of between 5% and 15%.

At the same time, there is also ample literature on how the introduction of non-contributory pensions can lead to higher rates of informality notwithstanding the positive impact that these have on coverage. A transfer to the elderly in a country that has a contributory pension system in place can potentially change the decision of whether to work or not, and even on the decision to contribute or not. Impact evaluations performed in Latin America have shown that non-contributory program significantly reduce the labor supply for those who are eligible to the transfer (Bosch et al, 2013).

Bosch and Guajardo (2012) study the impact on the Argentine labor market of introducing the moratorium that extended non-contributory pensions. Using a differences-in-differences estimation approach\textsuperscript{24}, the authors find that the adoption of the moratorium generates a fall in employment of 5 percentage points and a 2.5 percentage point fall in formal employment among women, meaning that it led women in formal jobs to retire. Moreover, they find a large increase in the proportion of workers in the formal sector that receive a pension which they attribute to the fact that a large part of the moratorium benefits went to elders that kept working above the retirement age. Other studies in the region find similar results following the introduction of non-contributive pensions in Brazil and Mexico\textsuperscript{25}.

\textsuperscript{24} In particular, they estimate the impact of the moratorium on the elderly just above and below retirement age, before and after the reform.
\textsuperscript{25} See Filho de Carvalho et al., 2008
**PILLAR 2: AN OPTIONAL INDIVIDUAL CAPITALIZATION SCHEME**

**WHAT IS AN OPTIONAL INDIVIDUAL CAPITALIZATION SCHEME?**

A defined contribution pillar provides workers with the possibility (but not the obligation) to save a percentage of their salary in a personal account. Employers can also opt to match their contributions. Tax incentives are provided to both employees and employers to incentivize adherence to the pillar.

**WHY DO WE PROPOSE AN OPTIONAL INDIVIDUAL CAPITALIZATION SCHEME?**

The rationale for proposing an optional individual capitalization scheme is that it has the following desirable features:

**1. Consumption smoothing**

A worker that contributed to the optional pillar will receive the *AUV* and a monthly proportion of what has been capitalized in her individual account. This component is strictly proportional to contributions. When combined with a tax incentive to promote adherence the benefits of this pillar are increasing on workers’ income and thus are useful to smooth consumption in the transition of workers from active to passive.

**2. Promotes savings**

Under reasonable assumptions about the expected average interest rate and the population growth, any fully-funded scheme generates more savings *vis-à-vis* a *pay-as-you-go* system (Kuné, 2000).

**HOW WOULD PILLAR 2 BE IMPLEMENTED?**

**1. Outsourcing investment management**

The privatization of the pension system in the nineties did not work out as expected in particular due to a failure in the implementation (extremely high fees, low benefits, costly transition, low coverage, etc). That situation gave strong political support to the Government to
propose the re-nationalization of the system in 2009. For that reason it is especially important that the implementation is well thought of. Because of the negative image that private pension funds have in Argentina following privatization and also to facilitate the implementation of the automatic enrollment we propose that the optional pillar remains public, but that the government outsources the investment management to a private international firm with experience in the industry. At later stages, as the market develops, it would be preferable to open up the market maintaining the public fund as one of the players to incentivize competitiveness.

However, as Whitehouse et al. (2005) argue it is of paramount importance that the investment management is kept at arms’ length of the Finance Ministry and any other government agency. Moreover, measures to ensure accountability should also be adopted. The investment management should be obliged to inform about its performance both in absolute and in relative to peers’ terms. For example, Canada and Ireland use benchmarks that are disclosed publicly to report performance. A third issue worth noting is that legislation should establish how funds’ losses would be dealt with if there were to be any.

In this context, the following considerations should be taken into account.

(2) Limiting foreign exposure

There are various reasons from a financial point of view why it would be desirable that the percentage of the portfolio that is invested abroad is unlimited. First, international diversification implies lower exposure to Argentinean idiosyncratic risk. Second, limiting exposure to Argentina would generate the perverse incentive on Central and State governments to issue excessive debt since they would be paying lower interest on it than what a competitive market would imply.

However, it would be politically very hard (if not impossible) to allow for the entirety of the portfolio to be invested abroad. Moreover, if adherence to this pillar were high investment abroad would jeopardize Argentina’s growth by reducing total national savings. Therefore the
fund should follow some strict rules in terms of foreign exposure that balances the aforementioned pros and cons.

(3) Limiting portfolio risk

There should be regulation on the investment strategy to limit the risk of the portfolio. However, it is optimal to allow volatility to be higher for people that start saving at younger ages. This is because if an elder has only a few years left before retirement and her individual account suffers a shortfall the chances that he has enough time to recover her investment before retirement are low. Hence, it is desirable that the portfolio risk of workers close to retirement is low. On the other hand, workers who have just entered the labor force can afford to take more risk and hence get a higher expected return because in a larger number of years their investments can typically recover from any shortfalls. Nonetheless, as they move across age cohorts their individual accounts should move across risk profiles.

We propose that age cohorts are established and that regulations on portfolio allocation are tailored for each one of them where higher risk profiles are allowed for lower age cohorts. We propose the following regulation matrix on the percentage of assets under management that should be established for each age cohort and its corresponding risk profile.

<table>
<thead>
<tr>
<th>Type of Regulation</th>
<th>Regulatory element</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market and liquidity risks</td>
<td>Value at risk</td>
</tr>
<tr>
<td></td>
<td>Liquidity coverage ratio</td>
</tr>
<tr>
<td>Risk by issuer</td>
<td>Credit quality minimum</td>
</tr>
<tr>
<td></td>
<td>Holdings of same issuance</td>
</tr>
<tr>
<td>Asset class limits</td>
<td>Foreign securities</td>
</tr>
<tr>
<td></td>
<td>Equities</td>
</tr>
<tr>
<td></td>
<td>Foreign currency</td>
</tr>
<tr>
<td></td>
<td>Securitizations</td>
</tr>
<tr>
<td></td>
<td>Structured securities</td>
</tr>
<tr>
<td></td>
<td>Inflation protected securities (minimum)</td>
</tr>
<tr>
<td></td>
<td>Commodities</td>
</tr>
</tbody>
</table>

Source: Based on the regulation categories of pension funds’ investments in Mexico²⁶

(4) Promoting adherence

Because it is likely that adherence to the optional pillar will be low we propose the following policies, at least during the early stages of the system:

-Tax Benefits

Employees who decide to contribute a portion of their salary to their own individual account would get this amount to be exempted from income tax. Once they become retirees they will have to pay the income tax that corresponds only to the optional part of their total benefits. This implies that, in the long-term, the tax incentive program is not as costly to the Government as it appears while it still provides incentives for employees to adhere. However, a maximum tax exemption should be established so that the fiscal cost of this policy is not too large. How much this maximum should be escapes the scope of this proposal but should instead be studied in the context of the integrity of the tax system.

-Automatic enrollment (opt-out policy)

The default for employees and employers would be to contribute 3.5% of the wage each (totaling 7%) to an individual account. However, the scheme is voluntary so they can opt-out if they want to. The rationale for setting the default as an opt-out instead of an opt-in comes from the findings of behavioral economics that when there is automatic enrollment workers are more likely to join savings plans and - what is better - the effect is even higher for those workers with lower financial sophistication (Madrian et al., 2001). The first country to adopt this type of policy was Italy in 2007, followed by New Zealand in the same year. Many firms in the United States have also chosen to adopt an automatic enrollment system.

-Optional employers matching of contributions

Firms can voluntarily (with an opt-out scheme as described above) match the contributions that workers make to their own individual account. Experiences in several countries adopting this schemes show that labor market competition drives a significant amount of firms to offer this type of benefit.
DOES PILLAR 2 ALLOW FOR CONSUMPTION SMOOTHING?

A fundamental part of our proposal is to include the individual capitalization pillar to each worker (and firm) that is willing to voluntary save in an individual account in the pension fund. The main goal of this pillar is to induce but not force people to save for their future and smooth their consumption patterns as they transition into retirement. The reason why we are not forcing them to contribute is that we are especially interested in avoiding any incentive to being informal. In this section we show that for reasonable assumptions of the pension fund’s return a worker that is willing to save 3.5% of her salary and has it matched by the firm by another 3.5%, will have a high replacement ratio. In Figure 10 we show the net replacement ratio\(^\text{27}\) for different values of the fund’s real annual return (“\(r\)” in the figure) and compare it to the status quo.

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\(^{27}\) Defined as the average benefit - including the universal pillar and the expected returns to the optional fully funded pillar - divided by the average wage of the economy in the year of retirement. This indicator will usually underestimate the real replacement rate because the average wage of the economy when the beneficiary is retired will probably higher than the average wage she perceived during her time as a worker. Therefore our estimation is quite conservative.
Considering a contribution of 7% (3.5% from the worker and from the 3.5% the firm) over 30 years of activity we find that the net replacement ratio would range between 50% and 80% depending on the assumed annual real rate of return (3%, 4% and 5% in the figure). With a real return rate of 5% the replacement ratio is considerably higher than the one expected under the status quo.\textsuperscript{28} In the medium case the replacement rate of our system is about 90% of the theoretical net replacement rate of the current system. The worst case we consider (real rate of 3%) shows a net replacement rate of 50%, which represents about 70% of the net replacement rate under the status quo. It is worth noting that a contribution rate of 7% is a conservative assumption as it is exactly one third of the mandatory contribution rate of the status quo.

**The Fiscal Reform**

**Does the Pension Reform Solve the Sustainability Problem?**

In order to assess and evaluate the size of this challenge we simulated two models separately. In the first place, we estimated the cost of the pension system we propose disregarding any costs derived from transitioning from the current system to the new one. We call this cost \textit{new pension system cost} hereafter and it represents how much the Federal Government would have to pay without considering the cost of the transition from one system to the other one (i.e., assuming that no one has to be compensated for the change in the system). In the second place, we calculated the cost of the transition (\textit{transition cost}) which is basically composed by the amount of expenses that have to be paid to the current retirees (those that retired under the current pension system) plus the amount of money that has to be paid to the soon-to-be retirees that contributed some years to the current system. Finally, we calculated the total cost of our proposal as the combination of both costs (\textit{new pension system cost} and \textit{transition cost}) to get the final cost.

Using the model we describe in the Appendix A we calculated the expected outflows of the proposed new pension scheme which we show in the next figures. Figure 11 shows the \textit{new

\textsuperscript{28} It is worth to mention that this replacement ratio is calculated using the parameters that ANSES should be using according to the Supreme Court. In reality the replacement ratio is about 40%.
pension system cost compared to the expected cost of the status quo.

**Figure 11 – THE NEW PENSION SYSTEM COST**

As Figure 11 shows, the cost of the new pension system is about 2% of the GDP in 2015, and falls thereafter, stabilizing in about 1.3% of GDP by 2100. The expected deficit of the current system becomes considerably higher than the expected one of our proposal.

**WHY DO WE PROPOSE A FISCAL REFORM?**

The major critique that can be made to our proposal is that the transition from the current system to the proposed one would have to be financed with an alternative source once contributions are reduced. We are absolutely aware of the fiscal challenge that our proposal would imply during the first years following its introduction. It would be politically extremely hard for our proposal to be implemented unless the current retirees and those who already contributed to the current system are paid according to their contributions. Figure 12 shows the sum of both costs (transition cost and new pension system cost), which is the relevant cost
from the Government’s perspective. It also compares the total cost of our proposal to the estimated cost of the status quo.

Figure 12 – THE TOTAL COST OF THE PROPOSAL

Source: Own elaboration
Adding the transition cost to that of the new pension system cost we estimate that the maximum deficit generated is about 6% of GDP in 2043 and then it is reduced reaching 1.3% of GDP in 2100. On the other hand, the current system’s deficit (status quo) increases over time until it stabilizes at about 4.5% of GDP in 2100.

There are two points worth noticing that result from the analysis above. First, although the current system shows a small deficit today it becomes clearly unsustainable in the future. Second, although it is true that our proposal generates a higher deficit now - which is undesirable from a political point of view -, but it is also true that the flipside of that greater deficit is a strong reduction in the tax burden. In other words our proposal includes an elimination of the contributions (or payroll taxes) which in turn generates a significant fiscal relief for firms and workers.

In Figure 13 we show that indeed the tax burden (defined as federal taxes collection as a percentage of GDP) would be heavily decreased if our proposal were implemented without any
Given that our proposed pension scheme generates both a large deficit and a significant tax burden relief we argue that the current fiscal structure should also be modified. To make the reform we are proposing politically supportable the Government should consider covering part of this deficit by increasing some other taxes but keeping the average tax burden at levels that are lower than the current ones. Put differently, if the reform generates a reduction in tax burden of about 6% of GDP once the contributions are driven to zero and the new pension scheme generates a deficit of about 6% of GDP at that time, then a good idea would be to reduce part of that deficit by making the reduction in the tax burden smaller.

**WHAT DOES THE FISCAL REFORM CONSIST OF?**

To diminish the fiscal pressure that the transition would generate if contributions were to be reduced to zero once and for all we propose the following package of policies:

(1) Gradually reduce contributions to the pension system to zero (for firms an employees)
(2) Increase income tax revenues by 10% and reduce transportation and energy subsidies to historical levels of about 2% of GDP (from the current 4.5% of GDP).

(3) Use FGS funds to ease the transition

(1) Gradually reduce contributions to zero

We propose a gradual reduction in contributions according to the following scheme. In the next section we show how this transition would make the reform fiscally implementable.

**Figure 14— PROPOSED CONTRIBUTION RATES OF EMPLOYEES AND FIRMS**

![Graph showing proposed contribution rates of employees and firms over time.](image)

*Source: Own elaboration*

(2) Increase income tax revenues by 10% and reduce subsidies to historical levels

We evaluate four options to reduce the deficit generated by our pension reform (A, B, C and D) and conclude that a combination of increasing income tax revenues 10% from current levels and reducing subsidies to their historical values is the best option.

- **Option A consists of increasing income tax revenues by 20% from their current levels.** Income tax is currently the second most important tax after VAT (about 7% of GDP). It is a
progressive tax because the rate is higher for higher levels of income and in the case of workers there is a minimum taxable threshold. The tax rate varies between 9% and 35% in the case of workers and it’s flat at 35% for firms. We estimate how the deficit of our proposal would be reduced if income tax revenues were increased by 20%. This could be implemented in different ways: increasing the tax rate homogenously, increasing the tax rate differentially (for example, even higher rates for the richer), and expanding the tax base - now only 10% of workers are taxable -, among others. Assuming that there is no effect on the tax base and that the 20% increase in revenues comes only from an increase in the tax rate then the income tax rate would have to go from between 9% and 35% to between 10.8% and 42%.

- Option B consists of increasing VAT revenues by 20%. The VAT is currently the most important tax (about 8.5% of GDP). It is a regressive tax since it the same rate applies to everyone with very few exceptions. The rate - with some exceptions - is 21%. In our analysis we show how the deficit of our proposal would be reduced if income tax revenues were increased by 20%. Again, if we assume that the tax base is not affected (which might not be very realistic), VAT would have to increase from 21% to 25.2%.

- Option C consists of reducing subsidies to their historical values of 2%. Subsidies (mostly to transportation and energy\textsuperscript{29}) are currently around 4.5% of GDP, close to 2.5pp higher than their historic values.

- Option D consists of reducing subsidies to their historical values of 2% and increasing income tax revenues by 10% from their current levels. In this case we combine a reduction of subsidies to their historical levels together with an increase of income tax revenues of 10%. Assuming that there is no effect on the tax base and that the 10% increase in revenues comes only from increasing the tax the rates would have to go from between 9% and 35% to between 9.9% and 38.5%.

(3) Use FGS funds to ease the transition

There is another option that could complement any of the previous ones: using the stock of
savings of the ANSES to finance at least part of the transition. When the pension system was nationalized in 2009 all the funds that were in individual accounts managed by private pension funds under the fully funded scheme were automatically transferred to the Federal State. All the funds were thus nationalized (meaning that now the owner is the Federal Government) and they are managed by the ANSES through the so called "Sustainability Fund" ("Fondo de Garantía de Sustentabilidad" or FGS in Spanish). According to the last official numbers the fund manages about U$S 45 Bn. 30 These funds came exclusively from the contributions of the workers who are actually retired and they would be used to pay for their benefits. The obvious question then is: how many years of deficit would be covered if the FGS were completely used to finance the fiscal gap of the pension reform?

Table 3 – USING THE FGS TO FINANCE THE TRANSITION

<table>
<thead>
<tr>
<th>Policy</th>
<th>Year when the fund would be depleted</th>
</tr>
</thead>
<tbody>
<tr>
<td>No additional reform</td>
<td>2021</td>
</tr>
<tr>
<td>Option A: increasing income tax revenues</td>
<td>2042</td>
</tr>
<tr>
<td>Option B: increasing VAT revenues</td>
<td>2043</td>
</tr>
<tr>
<td>Option C: reducing subsidies</td>
<td>2047</td>
</tr>
<tr>
<td>Option D: reducing subsidies plus increasing income tax revenues</td>
<td>2051</td>
</tr>
</tbody>
</table>

Source: Own estimations based on data from the FGS

Does the Fiscal Reform help alleviate the transition?

The policy package would generate a reduction of 2.3 percentage points in the federal tax burden in 5 years, 3.5 percentage points in 10 years, 5.5 percentage points in 20 years and 8 percentage points in 30 years. It would also generate a balanced budget for the pension system until 2051 and it would drastically reduce (and eventually eliminate) the labor taxes, which today are creating perverse incentives to informality. In Figure 15 we show how the total cost of the proposal (transition cost and new pension system cost) is alleviated by each of Options A-D discussed above, and compare them to the projected deficit of the status quo. In Figure 16 we show how the tax burden (Federal taxes) would be affected by each of these policies and compare it to the status quo.

Figure 15 – PROJECTED DEFICIT AFTER THE PENSION AND TAX REFORMS

Source: Own elaboration using data from the Federal Budget Office (2014)

Figure 16 – TAX BURDEN (FEDERAL) AFTER PENSION AND TAX REFORMS

Source: Own elaboration using data from the Federal Budget Office (2014)
The figures above show that all the options we propose reduce heavily the deficit generated by the pension system reform and still imply a significant reduction in the tax burden. Option D (increasing income tax revenues by 10% and reducing the subsidies to historical levels) looks like the most reasonable one as it implies relatively small changes in the tax structure. Only one tax would be increased and, given that only about 10% of workers currently pay income taxes, it is plausible to get this done by a combination of an expansion in the tax base and an increase in the average tax rate. Moreover, given that the VAT is already relatively high and that it is a regressive tax it does not look like a good option. Regarding subsidies, although it is always politically controversial to raise tariffs, subsidies are too high in terms of their historical values and there is a generalized consensus that eventually they will have to be reduced. Moreover, if oil prices remain at current levels for some time energy subsidies should fall accordingly.

VI POLITICAL FEASIBILITY

WHAT IS THE COUNTERFACTUAL?

A relevant question to assess the political supportability of or proposal is to ask if there is a way of making the current system sustainable by changing some of its parameters. Given that the current system is unsustainable we consider that the status quo is not a politically feasible option and thus at least some minor adjustments have to be made. The question is if those adjustments will be more or less politically supportable than the reform we propose. Although the incentives to informality problem would still exist there might be some small adjustments that could at least make the scheme financially sustainable. We tried different changes in parameters and sum up the most relevant findings in the Table 4.
Table 4 – A SENSITIVITY ANALYSIS: WHAT IS THE COUNTERFACTUAL?

<table>
<thead>
<tr>
<th>Policy to close deficit by 2050</th>
<th>Deficit in 2100 (Percentage of GDP)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Increase retirement ages</strong></td>
<td></td>
</tr>
<tr>
<td>Men 65 to 70</td>
<td>2.4</td>
</tr>
<tr>
<td>Women 60 to 66</td>
<td></td>
</tr>
<tr>
<td><strong>Increase contributions</strong></td>
<td></td>
</tr>
<tr>
<td>Firms from 10% to 15%</td>
<td>2.6</td>
</tr>
<tr>
<td>Employees from 11% to 16%</td>
<td></td>
</tr>
<tr>
<td><strong>Reduce Coverage</strong></td>
<td></td>
</tr>
<tr>
<td>From 90% to 61%</td>
<td>3.5</td>
</tr>
</tbody>
</table>

Source: Own calculations

As the table shows to close the deficit of the current pension scheme by 2050 the retirement age of men would have to be increased from 65 to 70 and that of women should go from 60 to 66. Another option could be to increase firms and employees labor contributions (5 percentage points and 6 percentage points respectively) implying a total increase in the rate of about 50%. The last option that we analyze is to reduce coverage from the current 90% to 61%, in which case the deficit would also converge to zero in 2050. In any of the three cases the deficit would start to increase again in 2050 and reach 2.4%, 2.6% and 3.5% of GDP in 2100 respectively. Any of these policies look politically difficult to implement - in particular increasing taxes or increasing the age of retirement - and they still don’t solve the informality problem. Moreover, although they improve the fiscal situation in the short-medium run they fail to solve the structural unsustainability problem.

**HOW CAN WE MAKE OUR PROPOSAL POLITICALLY SUPPORTABLE?**

In the Figure 17 we present a matrix analysis of the stakeholders that are relevant to our proposal: who would potentially support the reform, who would oppose it and which of them have strong and weak power. The first point worth making is that for this reform to pass it would need the full support from the Executive branch. Hence, first and foremost, we need the support of the President and its party for it to be adopted. Given that Argentina is holding
Presidential elections in October 2015 and that at this moment it is very uncertain who will be elected it is very hard to make an analysis of the Executive’s take on the reform.

**Figure 17 – STAKEHOLDER ANALYSIS**

The most important group to address would be opposition to the Executive in the Congress. The incredibly high level of support that Universal Allowance per Child (the universal conditional transfer implemented in 2008) had among politicians and the electorate - a transfer that has a very similar rationale than our Universal Transfer for the Elderly proposal - should help get our proposal public support. Moreover, considering that we propose that benefits of the current retirees are kept unaltered and that the change in benefits would only be felt very gradually as current workers retire, we don’t expect a huge critical mass of public opinion opposing the proposal. Hence, we consider there is a lot of potential for a coalition to form in Congress to approve the proposal. In any case, it is relevant to do a more in depth stakeholder analysis.

There are a number of stakeholders that we would expect to be strongly in favor of the reform. The first and most salient groups that would both support the reform and have strong power to
do so are parts of the business sector. Because costs for firms would be significantly reduced as contributions fall. Even though that could partly be offset by higher wages, it is clear that they have a lot to win from the reform. The most obvious supporters from the business sector would be the Argentine Industrial Union (UIA in Spanish), the Argentine Business Association (AEA) and the Argentine chamber of medium-sized firms (CAME in Spanish). Given that the rural sector has a lot of informality and that the reform would disproportionately favor workers in this sector it wouldn’t be hard to imagine the Argentine Agrarian Federation (FAA in Spanish) supporting our reform as well. Another strong supporter would probably be the Ministry of Employment and Social Security, given that the reform would significantly improve the current situation of informal workers by providing them a guarantied pension that doesn’t depend on the executive releasing a moratorium. And perhaps more importantly for the Ministry of Employment and Social Security it would potentially have significant positive impacts on labor formality. The third most obvious group of supporters would be informal workers. However, their capacity to turn their interest in effective political support is harder because they are far from being an organized group.

But for the reform to be adopted it is important to get support from sectors that although powerful would not be expected to have a clear stand on the matter. The most relevant of these are probably the labor unions. They have historically had a lot of power in Argentina and they could potentially be against the reform since they represent the interests of the formal workers who today get pensions that are higher than the universal transfer, part of which is currently paid by employers. For the reform to be approved it is important that unions are not strongly against it. To win their support it might be necessary to offer them something else in return.

However, it is not completely clear what the stand of future beneficiaries or current workers would be. On the one hand, they would be exempt from making any compulsory contributions. On the other hand, they would lose the contributions made by employers. However, given the low levels of replacement rates right now a large group of current workers who in the future would be entitled to a benefit don’t have very high expectations about what they will receive
and hence would prefer to save their money on their own. Moreover, the automatic enrollment to the second pillar is expected to generate some level of firm adherence as they compete to attract labor, at least in sectors where there is high demand.

A third actor worth considering is the Finance Ministry. Our proposal to reform the pension system would imply a deficit that will have to be covered with a reform in the fiscal structure (like the one we suggest) or by issuing debt. In any case, a successful reform will necessary have to count with the support of the Finance Ministry to cooperate and help to finance the reform.

A fourth actor worth considering is ANSES. Because the revenue from contributions of ANSES would be significantly reduced as they, they are expected to be against the reform. However, this funding will be replaced by taxes from the general government to fund the AUV (Universal Transfer), so they shouldn’t be significantly against it. In any case, ANSES is not an independent organism from the government so they are not expected to have too much leverage on the debate.

All in all, as long as there is no strong opposition from current workers and unions, we argue that the reform has a reasonable chance of having the necessary political support to be adopted. We already showed that the natural counter-factual of our reform (the status quo) will bring a huge deficit in the coming years and - if the Government wants to avoid it - very controversial changes to the parameters of the system will have to be implemented (like increasing the retirement age or increasing labor taxes), which in both cases sound like very unpopular. Moreover, we also showed that with a combination of very mild changes in the tax structure and using FGS, the cost of the system including the transition is low and implies a very significant reduction of the Federal tax burden. Hence we consider that the reform looks politically appealing.

**VII. LIMITATIONS AND CAVEATS**

Our conclusions rely on a number of assumptions that we make, particularly those related to demographics, the labor market and financial markets. For a detailed list of the assumptions on parameters that we use please refer to the Appendix. In general, most of our assumptions are
on the conservative side and thus the estimated deficit of the status quo could probably be higher than estimated, whereas the transition cost of our model could probably be lower.

(1) On informality

In our financial model we don’t make any assumptions regarding the effects of lowering contributions on formality rates. When we estimate the fiscal effect of changing the system we suppose that there are not second order effects. A more realistic assumption would have been that once labor taxes (contributions) are reduced informality goes down and GDP increases generating a natural expansion of the tax base and a fiscal relief for the Government. In this sense, our estimation of the fiscal cost of the reform is probably over-estimated. Other effects, like increases in the active population, were also omitted. On the other hand, when estimating the deficit of the status quo, we are assuming that formality doesn’t increase as the economy develops. However, if it did, the proportion of workers that fulfill the requirements for benefits would be higher, making the deficit of the status quo higher than estimated. In this respect the projected deficit of the current system is a lower bound.

(2) On the effect of tax benefits

Given that it is hard to make a prediction about the levels of adherence to Pillar 2, it is also hard to estimate what would be the fiscal cost of giving income tax benefits to employers and employees who do contribute to the pillar. Hence, our estimations of fiscal costs do not include the fall in income tax implied by the exemptions. But it is worth noting that in the long run the fall in income tax revenues would be less than the sum of exemptions on a yearly basis because retirees would pay income tax on the benefits received through Pillar 2.

(2) Lack of official data

There is a substantial lack of official information available (the last available report from ANSES is of 2012). For that reason, we had to make assumptions and rely on alternative sources. If the real data from the pension system were used projections could change.

(3) A caveat on the universal transfer
The amount of the transfer that we propose is based on a consumption basket; hence it’s consumption and not income based. This means that as real wages grow the transfer amount will fall when measured as a percentage of wages. The reason why we do this is that the transfer is by design thought to be just enough to take people out of poverty. Given that we define poverty as the inability to consume certain pre-defined basket it will move independently the level of wages in the economy.

(4) A caveat on contingent liabilities

To estimate the potential flows of the current system we use the legal parameters, which are not those used currently by the Government to calculate the indexation of benefits. Thousands of retirees have sued the Federal State to request an adjustment of their pensions, which the Government is losing for not abiding by the Supreme Courts ruling. We consider that these lawsuits represent a contingent liability. Therefore, when we calculate future expenditures of the pension system under the status quo we assume that the Government pays according to the Supreme Court’s rulings and thus our projections over-estimate the real expenditures of the system.

(5) A caveat on other expenditures of ANSES and on extraordinary regimes

A relatively small part of ANSES expenditures are non-contributory (mainly transfers for widows and for disability). We do not include these in our analysis but instead assume that they remain unchanged. If we included them then both deficits (status quo and our proposal) would be higher in the same amount. Moreover, when the pension system was structurally reformed in the nineties a minority of sectors (about 10% of retirees) didn’t adopt it but instead kept functioning as “extraordinary regimes”31. For example, many public employees and other unions (like the teachers one) decided to keep their own independent pension system. We decided to make all our calculations as if they were included in the National Pension System to make our analysis comparable. In any case, if those special regimes co-existed with the national scheme, our estimated deficits should be slightly adjusted to account for this difference.

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31 See Cetrangolo et al., 2004 for an explanation
REFERENCES


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APPENDIX

APPENDIX A: A FINANCIAL MODEL

To calculate the fiscal cost of our proposal vis-a-vis the status quo we built a financial model to estimate the inflows and outflows of both systems from 2015 to 2050.

Estimated flows of the current system

Our model is then divided into two parts: Inflows and Outflows. The inflows includes two parts:

(a) Contributions by employees and employers
(b) Contributions by self-employed.

The outflows are divided into three parts:

(a) Pensions of past employees.
(b) Pensions of the self-employed
(c) Moratorium benefits.

Outflows\(^{32}\)

(a) Pensions of the past employees.

A simplified formula to calculate the pension of the average beneficiary \(i\) in a given year is the following:

\[
B_i = PBU + CP_i
\]

\(^{32}\) In reality there are some workers that are a combination of these categories. In particular, it is very common to see workers that contributed part of their lives as self-employed and part as employees. There are not reliable information to include this cases so we have make a sharp division and estimate the outflows for each group. Then we will use the current proportion of self-employed/employees retirees to calculate the estimation of the total outflows.
\[ CP_i = C_{\text{years}_i} \times 1.5\% \times \frac{\sum_{j=1}^{10} W_{ij}}{10} \]

Where PBU is a basic universal non-contributory benefit (equal to U$S 1,800 or AR$ 207) and CP is a contributory pension that depends on the number of years of contributions of each individual (\( C_{\text{years}_i} \)) and the wages of the last ten active years. Because we don't have information at the individual level we need to calculate averages to get the estimated outflows. Also, we need to assume that the last ten years of activity are specifically the last ten years before the retirement age (65 for men and 60 for women). In particular, we first calculate, for a given year, the average benefit of the whole system as a weighted average (by population) of the average pension for each cohort.

To understand our assumption, consider the case of the 70 years old man cohort of 2015. He is a retiree since 2010 - when he was 65 - and that means that his last ten years of activity were those between 2000 and 2009. To calculate the average benefit of that particular cohort we average out the wages of the 55 years old men of 2000, 56 years old men of 2001, 57 years old men of 2002, etc., until the wages of a 64 years old man of 2009. By doing this we are able to calculate the average pension of the system in a particular year by averaging the pension of each of the cohorts of 2015 (from 65 years old to 100 years old in the case of men and from 60 to 100 years old in the case of women), using the population of each cohort for that year as the weights.

Once we have the average benefit for a particular year we multiply it by the number of retirees of that year to get the total outflows. We use the following formula (one per gender):

\[
\text{OutEmployees}_y = B \times \text{Population}_{y \_60/65-100} \times \%\text{Requirements}_y \times \%\text{Employees}_y
\]

Where B is the average benefit for the whole system, \( \text{Population}_{y \_60/65-100} \) is the number of retirees (men or women) on year y, \( \%\text{Requirements}_y \) is the proportion of the retirees that fulfilled the requirements to get a pension and \( \%\text{Employees}_y \) is the proportion of those who were employees (instead of self-employed) during year y. OutEmployees\(_y\) drops the total outflows to pay the pensions of the former employees (men and women separately).
(b) Pensions of the self-employed

The self-employed in our model represent only those workers that work independently (not for a firm). They pay a unique flat monthly contribution.\(^{33}\)

The self-employed retirees get only the minimum pension and thus to calculate the total outflow for this group we just compute the following formula:

\[
\text{OutSelf}_y = \text{MinPension} \times \text{Population}_{y, 60/65-100} \times \%\text{Requirements}_y \times (1 - \%\text{Employees}_y)
\]

Where MinPension is the minimum pension of the system.

(c) Moratorium benefits

This groups is made up of people that don't fulfill the requirements to get a pension (probably because they worked informally or were unemployed for a vast part of their active life) but were included in the system through moratoriums. To calculate the outflows of this group we need to assume a coverage rate. We take the current one (90%) and assume that from now on that rate will remain constant. Therefore to compute the outflows we use the following formula:

\[
\text{OutMoratorium}_y = \text{MinPension} \times \text{Population}_{y, 60/65-100} \times (\%\text{Coverage}_y - \%\text{Requirements}_y)
\]

Where \%\text{Coverage}_y represents the desires level of coverage of the system on year \(y\).

The sum of (a), (b) and (c) gives the total outflows of the system in terms of pensions.

**Inflows**

(a) Contributions by employees and employers

\(^{33}\) We are omitting a small part of the workers which are self-employed but earn a very high wage, high enough not to be eligible to contribute as "one-tax" workers. We include them in the self-employed category them because we don't have reliable information of their wages and contributions and in any case it is a very small proportion of the labor force (Ministry of Employment and Social Security, 2012).
To calculate the inflows of the system that come from contributions (both employees and employers) we compute the payments of each active cohort (from 15 to 60 or 65 years old, depending if it is a man or a woman) and then add them up. For each cohort we use the following formula:

\[
\text{ContEmp}_c = \text{Wage}_c \times \text{Population}_c \times \text{Active}_c \times \text{Employed}_c \times \text{Employee}_c \times \text{Formal}_c \times \text{ConRate}_c
\]

Where \(\text{Wage}_c\) is the average wage of the cohort \(c\), \(\text{Population}_c\) is the number of people (men or women separately) of that age. \(\text{Active}_c\) is the proportion of those that are active. \(\text{Employed}_c\) is the proportion of those that are employed. \(\text{Employee}_c\) is the proportion of those that work for a wage. \(\text{Formal}_c\) is the proportion of those that do if in a formal job. \(\text{ConRate}_c\) is the contribution rate for employees and employers\(^{34}\). We use data from 2014 for all the proportions and keep them constant thereafter.

To estimate the average wages per cohort we take the average wage of each year (by men and women) and apply an index for each cohort. For example, the 40-year-old cohort make approximately 40% more than the average wage, which we calculate using data from 2014. Until 2014 we use the actual average wages from the official statistics and starting in 2015 we apply a 1% increase per year in the average real wages to account for productivity increases.

Once we have the estimated contributions for each cohort we add them up to get the total inflows of this group for every year.

(b) Contributions by self-employed.

We use the exact same methodology as the one we used in the previous group with the difference that the contribution of the self-employed is a flat amount per month. More specifically, we compute the following formula:

\[
\text{ContEmp}_c = \text{Population}_c \times \text{Active}_c \times \text{Employed}_c \times \text{SelfEmp}_c \times \text{Formal}_c \times \text{FlatRate}
\]

\(^{34}\) We exclude the rate that goes to the health insurance and other benefits like family social transfers.
SelfEmp_c is the proportion of the workers that are self-employed and FlatRate is the monthly flat rate they contribute to the system.

The sum of (a) and (b) represents the total inflows to the system.

**Calculating the cost of the new system**

Our model doesn't include a particular source of funding within the system since funds are assumed to come from the general taxes. In terms of benefits, we propose two pillars:

(a) Universal Transfer for the Elderly (AUV in Spanish)

(b) Optional individual capitalization scheme

We modeled only the first pillar (AUV), which is the part that can represent a significant burden for the budget. Given that our model will be initially funded with general taxes, the model itself doesn't have inflows (other that second-order effects on the collection of general taxes). We therefore use the following formula to calculate the outflows for a given year:

\[
\text{OutAUV}_y = \text{Population}_{y60/65-100} \times \%\text{Coverage}_y \times \text{AUV}
\]

The amount we use is AR$ 1,500 (US$ 287). It corresponds to the value of the Basic Total Basket estimated by FIEL\(^{35}\) (December'14) for and old person.\(^{36}\)

**Calculating the cost of the Transition**

An important part of the cost of changing the system comes from the fact that a whole generation would be in-between the two systems (the old and current one). Those that contributed to the current system will demand a fair retribution to their contributions and - because in our scheme there are almost no labor taxes - there will be a gap that has to be calculated as an additional cost.

We divide our calculations into two parts:

---

\(^{35}\) Fundacion de Investigaciones Economicas Latinoamericanas.

\(^{36}\) Methodological data of the "adult equivalent" definitions can be found here http://www.indec.mecon.ar/nuevaweb/cuadros/74/informe_canastas_basicas.pdf
- Cost of paying the benefits to the current retirees.

- Cost of paying the benefits of those that contributed at least some part of their work-life to the current system.

a. Current Retirees

For each year

\[
\text{OutRetired}_y = B \times \text{Population}_{60/65-100} \times \%\text{Requirements}_y \times \%\text{Employees}_y
\]

\[
\text{OutSelf}_i = \text{MinPension} \times \text{Population}_{60/65-100} \times \%\text{Requirements}_y \times (1 - \%\text{Employees}_y)
\]

Where \(B\) is the average benefit for the whole system (13 months per year as established by law). \(\text{Population}_{60/65-100}\) is the number of men (or women) that are retirees in the year \(y\). \(\%\text{Requirements}_y\) is the proportion of the retirees that fulfilled the requirements to get a pension. And \(\%\text{Employees}_y\) is the proportion of those that were employees (instead of self-employed) during year \(y\). \(\text{MinPension}\) is the minimum pension of the current system and \(\text{OutSelf}_i\) the expenditure (in terms of benefits) per self-employed worker. These formulas drop the total outflows to pay the pensions of the former employees (men and women separately). We calculate this for each of the years since the implementation of the reform. Each year, we apply a mortality rate by cohort\(^{37}\). The youngest cohort (women of 60 years old in 2015) is completely exhausted when they turn 100 in 2050.

b. Future Retirees

\[
\text{OutFutureRetired}_c = \text{Population}_c \times \%\text{Requirements}_c \times \%\text{Employees}_c
\]

\[
\times \left[ \text{ProportionOldSys}_c \times \text{BenefitR}_c + (1 - \text{ProportionOldSys}_c) \times \text{AUV} \right]
\]

\[
+ \text{Population}_c \times (\%\text{Coverage} - \%\text{Requirements}_c \times \%\text{Employees}_c) \times \text{AUV}
\]

\(^{37}\) We take the last available ratios that are calculated by the Ministry of Employment and Social Security for 2008.
ProportionOldSys\textsubscript{c} = \frac{\sum_{j=18}^{60/65} E(\text{Years of Contribution}_j) \times \text{ContributionRate}_{cj}}{E(\text{Years of Contribution}_c)} / 20.5

Where BenefitR\textsubscript{c} is the medium benefit of the retirees of the cohort c. OutFutureRetired\textsubscript{c} represents the expenditures of the system in benefits of the cohort c (which considers only the cohorts that contributed at least once to the current system and at least once to the new one). ProportionOldSys\textsubscript{c} measures the proportion of their active time that each worker contributed to the current system. E(\text{Years of Contribution}_j) represents the expected number of years that a worker of age j contributed to the system\textsuperscript{38}. ContributionRate\textsubscript{cj} is the contribution rate paid by a worker of cohort c while she was j years old. And E(\text{Years of Contribution}_c) is the expected years of contribution of the cohort c during her lifetime. The numerator (which is basically the average rate of contribution of a particular cohort) is a number between 0 and 20.5 (the minimum and the maximum contribution rates. 20.5% is the current one – the sum of the firm and employee’s contributions- and 0% is the one that eventually will be implemented) and that is the reason why we divide it by 20.5. To give an example, a worker who retires next year will have an average rate of contribution of almost 20.5% (about 20.1%) because most of her life the contribution was 20.5%. A worker that retires in 25 years will have an average rate of contribution of about 5% because most of her life he contributed in the new system. Therefore, the benefit paid to the first case would be the average of the benefit he would have gotten with the current system (weighted by 20.1/20.5 = 96%) and the AUV of the new one (weighted by 0.9/20.5 = 4%). The benefit paid to the second case would be the average of the benefit he would have gotten with the current system (weighted by 5/20.5 = 24%) and the AUV of the new one (weighted by 15/20.5 = 76%).

Methodology and Data

Some assumptions have to be made in order to do the calculations. Some of them are forward looking (e.g., increases in wages) and some others are needed to fill deficiencies in the data. In this section we detail the sources of data and all the assumptions we make to compute the flows.

\textsuperscript{38} Estimated using numbers of the official Household Survey of 2014.
Sources

Wages: For the period 1995-2014 we use the registered average wages (in nominal pesos) taken from Ministry of Employment and Social Security data. For the period 1965-1995 we use data from Gonzalez (2004). For that period we don't have nominal data but real indexes. We use the year-over-year variation of the indexes to calculate the real wages. Therefore, our average wages series are expressed in constant pesos of 1995 from 1965 to 1995 and in nominal pesos from 1995 to 2014. Since we use the wages to calculate the pensions we need to inflate all the series to express the wages in pesos of 2015 (our base year to calculate the flows) which means that - in the end - the whole series of wages are coherently expressed in the same constant currency. Once we have the average wage we calculate the average for men and women using the factors taken from the last official Household Survey. Finally, we use the lifetime distribution of wages - i.e. the relation between the wage at age $X$ and the average wage for each age - from the same Household Survey. To estimate future wages we just apply an arbitrary productivity adjustment that we fixed in 1% per year. We only adjust the general wage average and use the aforementioned lifetime distribution of wages to estimate the average wage per cohort per year.

Population: We use projections by ECLAC (CELADE, 2013) which on average imply a 0.5% increase in population per year.

Employment assumptions: We keep constant the rate of Active population, rate of unemployment, proportion of workers that are self-employed (or employees) and proportion of employees that are formal workers for both men and women using data from the 2014 household survey (INDEC). For each case we calculate the rates by cohort (e.g., unemployment rate of 25 years old men).

---

39 Technically, we do $\text{Avg Wage Men}_t = \frac{\text{Avg Wage}_{t}}{\% \text{Men on Emp.} (2014) + \% \text{Women on Emp.} (2014) \times \frac{\text{Avg Wage Men}_{2014}}{\text{Avg Wage Men}_{2014}}$. 

40 More specifically, once we have the average wage of men in year $t$, we calculate the average wage of each cohort $c$ using the following formula: $\text{Avg Wage Men}_{t,c} = \frac{\text{Avg Wage Men}_{t}}{\text{Avg Wage Men}_{2014}} \times \text{Avg Wage Men}_{2014}$. 

51
**Parameters**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Assumption</th>
</tr>
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<tbody>
<tr>
<td>Productivity Increase (yearly)</td>
<td>1.00%</td>
</tr>
<tr>
<td>Average Years of Contributions (of those that fulfill requirements)</td>
<td>34</td>
</tr>
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<td>% of people that fulfill the requirements</td>
<td>61%</td>
</tr>
<tr>
<td>Share Men in Employment (EPH, 2014)</td>
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<tr>
<td>Share of Employees out of those that fulfill requirements</td>
<td>82%</td>
</tr>
<tr>
<td>Share of Self-Employed out of those that fulfill requirements</td>
<td>18%</td>
</tr>
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<td>U$$/$$/ Coverage (Target)</td>
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</tr>
<tr>
<td>Contributions (Employees)</td>
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</tr>
<tr>
<td>Contributions (Firms)</td>
<td>10%</td>
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<td>Universal Allowance for the Elderly (monthly)</td>
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<td>Optative Contribution to Fully-Funded (% of Wage)</td>
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<tr>
<td>Annual Real of Return</td>
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</tr>
</tbody>
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**APPENDIX B: CONTRIBUTION RATES**

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<thead>
<tr>
<th>Contributions</th>
<th>Workers</th>
<th>Employers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pensions</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>National Social Security System <em>(RNSS)</em></td>
<td>11%</td>
<td>10.17%</td>
</tr>
<tr>
<td>PAMI Law 19.032</td>
<td>3%</td>
<td>1.5%</td>
</tr>
<tr>
<td>Family transfers</td>
<td>-</td>
<td>4.44%</td>
</tr>
<tr>
<td>National fund for employment</td>
<td>-</td>
<td>0.89%</td>
</tr>
<tr>
<td>RNSS Subtotal</td>
<td>14%</td>
<td>17%</td>
</tr>
<tr>
<td>National Health System</td>
<td>Health Insurance</td>
<td>3%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>17%</td>
<td>23%</td>
</tr>
</tbody>
</table>

*Source: Own elaboration based on www.infoleg.com*

**APPENDIX C: ADJUSTMENT FACTORS**

The pensions are adjusted twice a year according to the Pensions Adjustment Factor. All pensions that are provided following the Law 24.241 must follow the following adjustment factor.
\[ M = \min(a, b) \]
\[ a = 0.5 \times TR + 0.5 \times W \]
\[ b = 1.03 \times S \]

With \( TR \) being the biannual variation in contribution resources, \( W \) the average wages index variation (INDEC) and \( S \) the annual variation in total resources of ANSES.

**APPENDIX D: THE CASE OF CHILE**

It is interesting to analyze the case of Chile because it offers many parallels to the reform that Argentina undertook in the nineties but failed to last in time. Some of these weaknesses, though not all, have been addressed by the recent reforms of 2008. In the eighties, Chile adopted a structural reform of the pension system towards a private scheme that has become very well known for its success in many areas.

The 1980 reform consisted of replacing the pay-as-you-go public system with a multi-pillar public-private one. The first pillar (PASIS in Spanish) has two components: a pension aimed to reduce poverty for which no contributions are necessary and a minimum pension to which only participants of the pension funds (AFP in Spanish) who have contributed 20 years are entitled. The second and third pillars are based on a system of contributory individual funds, which are managed by the AFP. The former is mandatory for salaried workers and optional for self-employed, who must pay 10% of their income into their own account. The third pillar is instead voluntary, i.e. it is for people who want to contribute above the mandatory 10 percent and hence provides tax benefits.

The Chilean pension reform succeeded in providing a mechanism for savings for a great part of the population. The size of the AFPs today is estimated to be about US$ 168 bn or two thirds of Chilean GDP. The reform of the eighties undoubtedly had a positive impact on the consolidation of the country’s capital market, which barely existed in the in eighties.

The Chilean pension system now represents 60% of GDP, but in 2003, 30% of employed population was not covered according to Arenas de Mesa (2005). Moreover, the self-employed, low-income, and female populations have very low coverage rates, which in turn diminishes the
ability of the pension system to generate high savings.

But the low coverage rate is only one part of the story. Many sectors of the population, particularly women, self-employed and low-income workers had been left aside by the reform. The best option available for many of them before the reform introduced in 2008 was to qualify for the minimum pension for which they need 20 years of contributions and otherwise they would have to rely on the welfare PASIS pension for the elderly.

The reform of 2008 was introduced in response to the coverage gap between salaried workers and other sectors of the population, which were not covered by the system. The Basic Pension introduced in 2008, extends the basic welfare pension to those older than 65 that belong to the poorest 60% of the population. To deal with the low coverage of the self-employed in Chile, the 2008 reform also made it mandatory for them to contribute, first partially and as from 2014 on 100% of their income.

The reform of the eighties not only had the problem of leaving a significant part of the population aside, but it also imposed a huge fiscal cost. According to Arenas de Mesa, the fiscal pension system generated a deficit of 5.7 percent of GDP on average since the reform was introduced until 2003. The main driver of this deficit, he argues, was the fiscal imbalance that stemmed from the operation of the old system.