

French pension reform: Greater fairness would boost financial sustainability

by Tullia Bucco, Economist (UniCredit Bank, Milan)

- In France, the high commissioner in charge of drafting the pension reform promised by President Emmanuel Macron, Jean-Paul Delevoye, has presented his recommendations to the government. These recommendations represent a step in the right direction towards establishing a pension system that is in line with best practices in Europe.
- In this paper, we look at the key features of France's current pension system in an international comparison, the main goals of the reform and the main challenges it faces. Currently, the French system offers excellent protection, although this causes its financial balance to often be in deficit. The coexistence of multiple schemes with different rules undermines labor mobility, contributes to inequities and fosters a sense of mistrust in the system.
- The system proposed by Mr. Delevoye has several merits. Unifying the rules for calculating pensions and making them depend on demographic and economic variables should reduce inequalities in pension entitlements that are currently corrected at high cost to public finances and should also balance the system in a sustainable way.

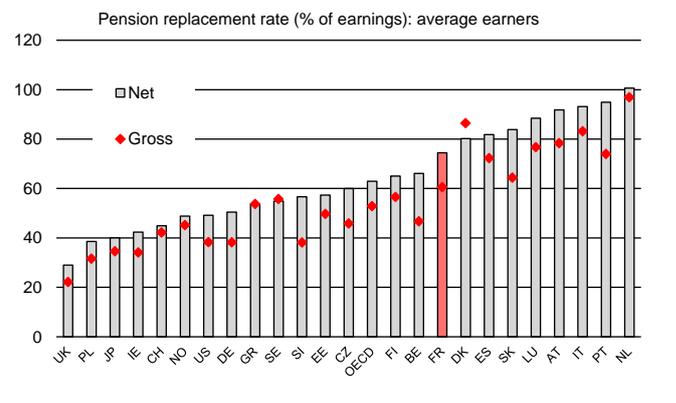
During his electoral campaign, Mr. Macron pledged to reform France's pension system by transforming it into a universal system, "where one euro of contribution gives the same pension rights, whenever it has been paid, whatever the status of the person". He presented the reform as part of his broader plan to promote a more equitable and inclusive society, in which workers and retirees are treated fairly and there is neutrality with regard to labor-mobility choices. This marks a clear break with past pension reforms, where the main objective was to contain the system's deficit and improve its financial sustainability.

Mr. Delevoye's recommendations to the government are broadly in line with what he had indicated to workers' and employers' representatives in meetings, which lasted more than a year. His recommendations represent a step in the right direction towards establishing a universal pension system based on rules that adapt to demographic and economic fluctuations, while preserving a high level of solidarity. A draft law is then expected to be presented to France's Council of Ministers, most likely in December (rather than in September as originally scheduled), and to be submitted to a parliamentary vote after the March 2020 municipal elections (so that it enters into effect in 2025). This is a good time to look at France's current pension system in an international comparison, the main goals of the reform and the main challenges it faces.

The current pension system in an international comparison

The French pension system offers excellent protection. The net average replacement rate (i.e. retirement net income relative to net earnings) granted to its beneficiaries is equal to 75%, compared to 71% and 67% at the eurozone and European levels, respectively. This partly explains why France is the only EU country, along with Luxembourg, where the average income of people over 65 years of age is slightly higher than that of the whole population (by 3%, compared to an average of -12% at the European level).

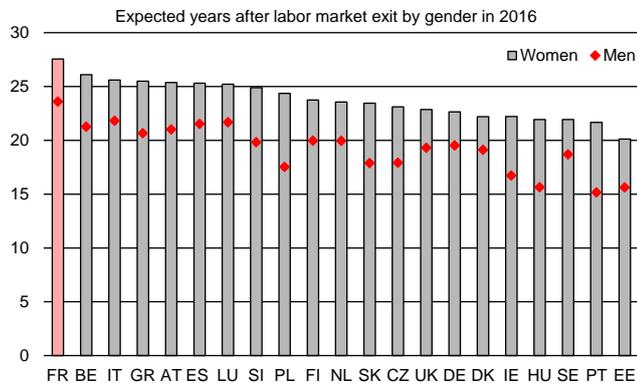
CHART 1: THE FRENCH SYSTEM GRANTS GENEROUS BENEFITS



Source: OECD, UniCredit Research

Moreover, given that French people exit the labor market relatively young (their average effective retirement age is 60, three years earlier than their European peers), they spend a comparatively larger part of their lifetime in retirement, while their residual life expectancy at the average age at which they leave the labor market is the highest among OECD countries after Japan. It is equal to 28 years for women and 24 years for men, compared to 24 years and 19 years for women and men respectively across the whole of Europe (see Chart 2 on the next page).

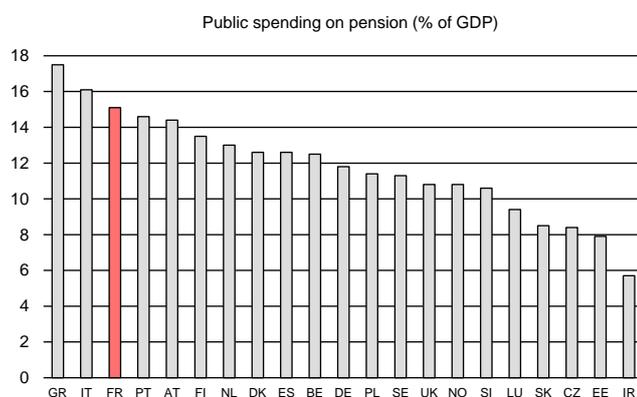
CHART 2: LIFE EXPECTANCY AT THE AVERAGE AGE WHEN WORKERS EXIT THE LABOR MARKET



Source: OECD, UniCredit Research

The favorable conditions offered to French retirees comes at a high cost to French public finances. Public expenditure on pensions, at 14% of GDP, is among the highest in Europe – only Greece and Italy spend more.

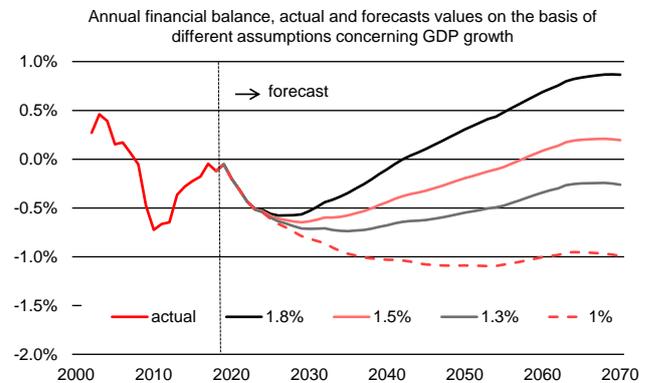
CHART 3: GOOD PROTECTION COMES AT A HIGH COST



Source: OECD, UniCredit Research

One mitigating factor is that the financial sustainability of the French system is not a pressing issue. Past reforms have ensured that the system's deficit will remain manageable in the medium-to-longer term provided that real GDP growth hovers around 1.5% (see Chart 4). Moreover, the European Commission estimates that public pension expenditure as a percentage of GDP will remain broadly unchanged from current levels in 2060 and that it will moderately decline thereafter.

CHART 4: THE SYSTEM'S MEDIUM-TERM FINANCIAL BALANCE IS BROADLY IN CHECK BUT DEPENDENT ON REAL GDP GROWTH



Note: The Conseil d'orientation des retraites (COR) assumes that, starting from 2030, GDP growth will be mainly driven by productivity gains as the growth rate of the active population is expected to remain weak.

Source: COR, UniCredit Research

Unlike other countries, France has so far relied on changes to the main parameters of its pension system (i.e. the length of the contribution period, the benefit level, the age at which a full-rate pension [i.e. without penalty] is awarded) to restore the system's financial balance rather than on changes to its nature. In technical terms, France is said to have relied on parametric rather than systemic reforms. One of the disadvantages of these parametric reforms is that they require repeated adjustments to cope with unexpected changes in demographic and economic fluctuations that cause pension expenditures to exceed expectations.

BOX 1: THE FRENCH PUBLIC PENSION SYSTEM FOR PRIVATE-SECTOR EMPLOYEES. A BRIEF OVERVIEW

France's general public pension system, which is the focus of this piece, is based on two mandatory schemes:

1. The scheme managed by the state (régime de base) is a defined-benefit régime in which pension is determined as a function of a worker's history of earnings. Almost 70% of French workers are affiliated with it. Under this scheme, a full-rate pension can be obtained at the minimum legal retirement age of 62 but with an additional condition concerning the number of years of contribution. This condition varies according to the insured person's year of birth (42 years for those born in 1963, increasing to 43 years for those born in 1973). On average, a full-rate pension is thus effectively attained at the age of 64. The earnings reference, on which contributions are levied, is based on the average of the 25 best years, with salaried earnings valorized in line with inflation. This earnings measure is truncated to the social-security ceiling, i.e. PASS, equal to EUR 40,524 in 2019.

Leaving before the age of automatic entitlement to a full pension without having fulfilled full-contribution conditions is penalized (a 5% reduction per missing year), while working additional years increases benefits (by a same amount). Pensions in payment are indexed to prices.

2. The mandatory occupational plan (régime complémentaire) is a point-based scheme managed by workers' and employers' representatives. Contributions to this scheme are used to buy points at a certain purchase value, and the pension level is determined by the number of accumulated points, multiplied by the servicing value of one point at the time the pension is calculated. The purchase and servicing value of the point are fixed each year by social partners. Benefits are earned with a 6.2% contribution rate levied on earnings beneath the PASS and 17% above that ceiling, up to eight times the PASS. The pension amount is proportional to lifetime salaried earnings rather than the 25 best years as applicable in the main public scheme. During the past few years, the cost of a pension point has been upgraded in line with average wage growth, while the servicing value of the point has been indexed at inflation.

In addition, there is an untargeted minimum pension (minimum contributif) and a means-tested minimum income benefit (Allocation de Solidarité aux Personnes Agées) which is paid to retirees with low income. Both benefits are adjusted in line with prices.

The main weaknesses of the current system

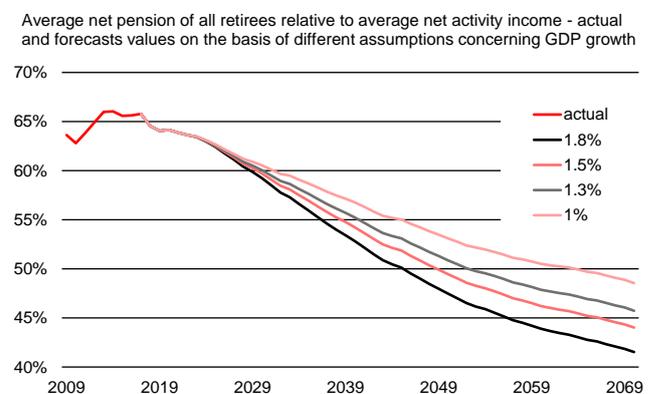
If the financial equilibrium of the system is not a pressing issue, the current pension system suffers from several weaknesses:

1. Complexity: France's pension system features an unusually complex structure. It is made up of 42 mandatory schemes, almost all of which operate on a pay-as-you-go basis (current contributions pay for current benefits) but with different rules for calculating pensions: the best 25 years for the main public scheme for private-sector employees, the last six months for the public-sector scheme and the entire career for the private-sector supplementary scheme (see Box 1). This complexity feeds the impression that some groups are treated more favorably than others. Moreover, uncertainty about entitlements prevents people from taking the appropriate consumption-saving decisions over their lifecycles and is detrimental to trust in the system.

2. Sensitivity to economic trends: The financial balance of the system is highly dependent on real wage growth and, therefore, over time, on productivity gains. This dependence reflects the choice made by the legislator in 1993 (with the Balladur reform) to upgrade salaried earnings according to the evolution of consumer prices rather than according to average real wages or the economy-wide real wage bill.

This choice sought to contain the continuing growth of pension entitlements given that real wages usually grow faster than prices due to productivity gains. Given that pensioners do not share productivity gains with workers, the current system generates an amount of savings that is correlated directly with the degree to which wage growth exceeds inflation. This has not so far had a major impact on the average income of retirees relative to that of workers, which remains high. However, this is expected to change when the number of baby boomers retiring eases in the 2020s, as baby boomers tended to enjoy better careers and higher salaries than their parents' generation.

CHART 5: RETIREES FACE A DECLINE IN STANDARDS OF LIVING RELATIVE TO WORKERS



Note: The COR assumes that, from 2030, GDP growth will be mainly driven by productivity gains as the growth rate of the active population will remain weak.

Source: COR, UniCredit Research

3. Regressive distributional effects: In the main public scheme, only the best 25 years of a career are taken into account in the pension calculation. The contributions of flat and long careers are still poorly valued by the current system, and this leads to regressive pension profiles. A private-sector employee whose income has remained stable during his/her career will receive lower pension entitlements than an employee who has seen his/her income increase. In general, the system induces redistribution from workers with usually uniform and long careers (notably farmers, craftsmen) to those with shorter, and growing, careers paths. This unintended redistribution in favor of the better-off is reinforced by differences in life expectancy, which usually increase with education level.

4. Limited portability: France's pension system is insufficiently suited to increasingly mobile careers. Portability rules are complex and poorly take into account changes in working sector (public/private), status (managers/non-managers/non-employees) or mobility within the EU.

BOX 2: TERMINOLOGY

Pension plans designed to achieve some target standard of living in retirement comparable to that enjoyed during working life can be grouped into four main schemes based on the way benefits are determined.

Defined benefit schemes offer their beneficiaries the guarantee of receiving a monthly pension of a predefined amount at retirement. The pension benefit depends on the number of years of contribution, an individual's pensionable earnings and the percentage of earnings that each individual plan intends to replace.

Point-based schemes work as follows. Workers earn pension points based on their salaried earnings each year. Upon retirement, the sum of pension points is multiplied by a pension-point value to convert them into a regular pension payment.

In **defined contribution (DC)** schemes, contributions are paid into individual accounts and invested over the long term to deliver a pension upon retirement. For a given level of contributions, the level of retirement wealth accumulated depends on the net investment returns accrued in the account, and hence on the performance of the investments in financial markets.

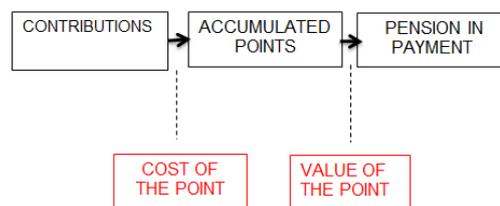
Notional-account plans record contributions in an individual account and apply a rate of return to the balances (fixed by a fund manager). The accounts are notional in that the balances exist only on the books of the managing institution. Upon a worker's retirement, the accumulated notional capital is converted into a stream of pension payments according to a conversion factor. This factor depends in particular on the effective retirement age and life expectancy of the generation to which the insured belongs. The latter is determined in such a way that the sum of the pensions received by each generation is always equal to the sum of the contributions it has paid. Since this is designed to mimic DC schemes, notional accounts plans are often called **notional defined-contribution plans (NDC)**.

The reform currently being discussed

1. The principles underpinning good policy design

The reform currently being discussed is a significant departure from the parametric approach (i.e. based on changes to the system's key variables) of those reforms that preceded it (in 1993, 2003, 2010 and 2014). The primary goal of the reform is to remodel the current system into a "system that it is universal, fair, transparent and reliable [Mr. Macron]". Generating savings beyond those that could be derived indirectly from better management of resources is not a stated objective.

Nonetheless, the calibration of the rules of the new system can contribute to significantly improving its financial sustainability. While several pension schemes within the pay-as-you-go universe would have achieved this goal, the government has chosen to use a point-based scheme (henceforth referred to as a point scheme or simply points). Under a generic point scheme, contributions are used to purchase points. Upon a worker's retirement, the sum of the points accumulated is multiplied by a point value and converted into regular pension payments in euros. It is worth emphasizing that, within this context, all contributions generate pension entitlements, which is not the case today¹.



The choice of a point scheme over a NDC scheme, similar to that implemented in Sweden, which is regarded as a benchmark for its strengths, is mainly explained by the fact that French workers are more familiar with point schemes. This familiarity derives from the fact that French private-sector supplementary plans have been using a variant of a generic point scheme for decades. Furthermore, the alleged higher capacity of NDC systems to adapt to demographic and economic fluctuations compared to point systems is not an intrinsic characteristic of NDC systems. The strengths of an NDC scheme can be coded in a point system, provided that the latter introduces rules to adjust its key variables according to the evolution of demographic and economic fluctuations (the adjustment to which is automatic under NDC schemes, see Box 2).

TABLE 1: SYSTEMIC REFORMS IMPLEMENTING POINTS OR NDC PENSIONS SINCE THE EARLY 1990S

Country	Type	Legislated year
Estonia	points	1997-1998
Germany	points	1989
Italy	NDC	1995 and 2011
Latvia	NDC	1995
Lithuania	points	2016-2017
Norway	NDC	2009
Poland	NDC	1996-1998
Slovak Republic	points	2003
Sweden	NDC	1998

Source: OECD, UniCredit Research

¹Under the occupational pension plan, 21% of contributions does not generate rights, according to a mechanism called *taux d'appel*.

Mr. Delevoeye’s recommendations offer a preliminary indication about the content of the current reform, given that many issues remain open for discussion. However, the government’s firm commitment to improving the fairness of the system while ensuring its financial equilibrium is maintained has important implications in terms of the rules that should govern the new system.

In the following, we list the principles that would underpin good policy design, based on best practices of pension reform implemented in Europe. Our focus is on the public schemes covering private-sector employees, i.e. régime de base and régime complémentaire, which absorb the largest amount of public expenditure (64% of the total).

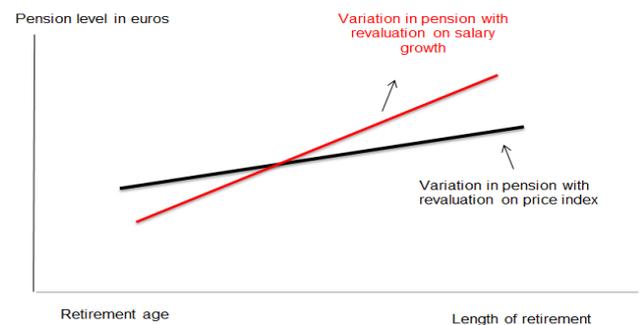
1. The cost of a point should be adjusted to the growth rate of the wage bill for the whole economy, rather than at inflation. This valorization allows retirees to preserve the relative value of their past contributions as these evolve with the contribution base. This rule underpins Macron’s commitment to ensure that each euro contributed will give access to the same rights to everyone regardless of when it was paid. Alternatively, the French legislator could use an indexation based on average wage growth as the growth rate of the working-age population is rather stable in France and it is expected to remain so in the longer-term – this is Mr. Delevoeye’s recent proposal. However, this would expose the system’s financial equilibrium to unexpected changes in employment trends.

2. Pension calculations should take into account the growth in life expectancy. This principle is key to ensuring equal treatment among generations while preserving the system’s financial equilibrium. According to the OECD, this requires “the value of the point to vary at the individual level depending on the cohort and the effective age of retirement based on actuarial principles to take into account remaining life expectancy”². One advantage is that two workers of different ages who retire in the same year with an equal number of points would not receive the same pension. The older worker, who is likely to have a shorter retirement period, would benefit from having a higher pension. This is a sensitive issue, particularly in France, where life expectancy is high on average but mortality differentials can be large across social groups. The OECD has remarked that, at present, no country uses such an age-cohort approach, and France could be the first to introduce this innovation. Germany adjusts the point value for demographic changes, but it does so regardless of the generation and the retirement age of the retiree. Mr. Delevoeye has assured that the new system will better take into account life expectancy. However, he did not elaborate on how this will be built into the system.

²In practice, this means that the age-cohort point value should be indexed at the wage-bill growth rate minus 0.4%, which corresponds to life-expectancy growth.

3. The more generous the indexation of the pension during the retirement period, the lower the initial pension. There is flexibility in the choice of how a pension is revalued during the retirement period. However, this choice entails a trade-off between the generosity with which pensions are revalued over time and the initial level of pensions that can be consistently offered in compliance with actuarial principles (see Chart 6). The challenge is thus to find possible ways in which the terms of the trade-off can be improved.

**CHART 6:
IMPLICIT TRADE-OFF IN THE CHOICE OF PENSION REVALUATION**



Source: Bozio&alii (2019), UniCredit Research

One possibility could be to boost the initial pension by issuing an advance on future pension benefits and then indexing pension benefits in a less-generous manner³. This indexing is the same used in the current system. However, the current system grants a significant advance on future pensions to the detriment of revaluations with very poor dynamics (this is also explained by governments that have often increased benefits at a rate that was less than inflation in order to generate savings). One of the advantages of this approach is that people who are expected to have a shorter retirement period would benefit from a higher pension, which would partly compensate for inequalities associated with their shorter life expectancy. However, this would come at the risk that, if growth expectations on which the advance is based turn out to be too conservative, this may lead to revaluations that can be less than inflation to preserve the long-term stability of the system⁴. Mr. Delevoeye has proposed to maintain “the current indexation to inflation”, but it is not clear whether this will be combined with a higher starting benefit.

³The lesser degree of generosity derives from the fact that the advance granted will have to be subtracted from the revaluation process.

⁴In order to mitigate the shortcomings associated with inadequate pension revaluations, Mr. Delevoeye supported the idea of establishing a dedicated reserve fund to guarantee the financial equilibrium of the system and the value of the point in the face of demographic end-economic shocks. This would add a further layer of complexity to ongoing negotiations. This is why the OECD suggested that the French government should rather deal with it at a later stage, as Sweden did.

2. The pivotal age

Within the framework of a point-based scheme, no single retirement age ensures the financial equilibrium of the system. There are multiple combinations of retirement ages and replacement rates that play this role. They evolve along with the evolution of life expectancy. In principle, everyone can decide to retire when he or she considers it most appropriate, although early departures come with the cost of receiving a lower pension. However, this can lead many people to underestimate their future financial needs and exit the labor market at too young an age. This has a twofold implication: pensions risk proving inadequate, while the financial sustainability of the system risks being threatened by an increase in the ratio of pensioners to workers .

These risks argue in favor of maintaining a minimum age at which people become eligible to retire. The government has indeed pledged to keep the minimum retirement age fixed at 62 years from the start of reform talks. We think this is sensible, as any change to the minimum age risks creating confusion about the aim of the reform and stifling relationships with the social partners. The French Democratic Confederation of Labour (CFDT), France’s largest pro-reform union, firmly said that it would never support an increase in the statutory retirement age.

As consultations with social partners have progressed, discussions have increasingly focused on the introduction of a reference age along with penalties (bonuses) for those who retire earlier (after) in order to induce people to work longer and thus retire with higher pensions. Mr. Delevoye proposed that this pivotal age be set at 64, which is the age at which a full-rate pension is currently eligible, in line with previous indications.

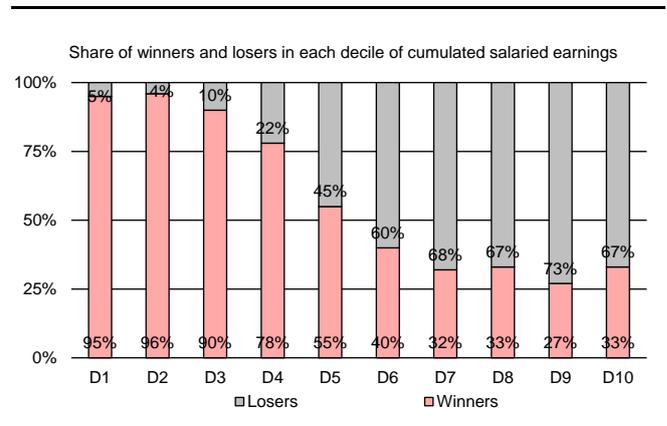
The main change to the current set of rules governing France’s pension system is that the effective retirement age will evolve according to cohort-specific estimates of life expectancy (at the pivotal age) instead of estimates of life expectancy based on the total population (as per 2014’s reforms). This proposal has, however, sparked a lot of controversy. Many interpreted it as a veiled attempt by Mr. Macron to backpedal on his electoral promise to keep the legal retirement age fixed at 62 years. In fact, the establishment of a pivotal age at 64 years will simply make explicit one of the basic tenets of the current system: leaving the labor market before 64 years of age implies a pension that is weaker than the full rate. This will result in greater transparency and could potentially influence people to gradually leave the labor market beyond that age. Economic evidence suggests that people’s behavior is indeed strongly influenced by social norms in addition to financial constraints.

3. Will the new system be less redistributive?

The current pension system is generally redistributive. It reduces inequalities in salaried earnings over the life cycles of workers: the ratio between the richest 10% and of the poorest 10% is reduced from 6 in terms of earnings to 4 in terms of pensions. However, what is generally little appreciated is that this redistribution is mainly achieved via solidarity mechanisms, given that the current rules applied to calculating pensions are regressive and increase income inequality that derives from poor careers.

Switching to new rules based on lifetime earnings and indexing the cost of the point to wage-bill growth should remove these perverse redistributive effects and improve the efficiency of France’s pension system. Nonetheless, the changes will inevitably generate winners and losers, even among workers belonging to the same socio-professional group – i.e. people who have long, flat careers, who started working early, who have long contributed to the system and, in general, those who are at the bottom of the income distribution will be the most advantaged as their contributions will be better upgraded than they are now.

CHART 7: LOW-INCOME RETIREES SHOULD BENEFIT THE MOST FROM THE NEW RULES



Source: COR, UniCredit Research

The elimination of the negative redistributive effects embedded in the current system will allow the granting of more solidarity for a given level of expenditure (spending on solidarity mechanisms amounts to EUR 61bn or EUR 94bn, if survivors pensions are included, i.e. 2.6% or 3.4% of GDP). In principle, the closer link between contributions and benefits under the new system would imply no redistribution. This is why many fear that the reform will reduce redistribution. However, in practice, any type of redistributive mechanisms (i.e. survivor pensions, minimum pensions) can be added to a generic point scheme. Moreover, extra points can also be granted for any breaks taken in a career (i.e. due to unemployment, sickness or parental leave) that otherwise would weigh on an individual’s financial prospects at

retirement – Mr. Delevoye suggested following this road. This approach offers the advantage of making redistribution more transparent and gives rise to effectively new entitlements⁵. The key question is whether redistributive instruments should be financed by contributions or by general taxation. At present, they are primarily financed by contributions (80% of the total), and this causes the contribution rate⁶ to be high (28%), with negative consequences for the supply and demand of labor.

Conclusion

The systemic reform of France's pension system currently under discussion is very ambitious, as it involves a tremendous effort to harmonize numerous schemes and to adopt pension rules that adapt to demographic and economic fluctuations. The reform is thus part of a more general trend across Europe to cope with the demographic shocks that cause employees to work increasingly longer to avoid a reduction of their replacement rate. From this standpoint, the reform offers France the opportunity to align its pension system with best practices in Europe on the basis of the preferences expressed by its citizens.

In this piece, we illustrate that strengthening the contributory nature of the French system should reduce inequalities in pension entitlements, which are currently corrected at a high cost to public finances. This will allow solidarity to be increased for a given level of expenditure. Moreover, the indexation of contributions to the growth rate of the wage bill for the whole economy will improve the financial sustainability of the system, which currently requires real GDP growth rates of about 1.5% in order to keep the balance in check. The new system will offer each generation the same replacement rate of today at a slightly higher age, in line with increasing life expectancy. This suggests that fears that the new system will lead to future pension levels that are significantly lower than current ones are probably exaggerated.

Author

Tullia Bucco
Economist
(UniCredit Bank, Milan)
+39 02 8862-0532
tullia.bucco@unicredit.eu

Editor

Marco Valli
Head of Macro Research,
Chief European Economist
(UniCredit Bank, Milan)
+39 02 8862-0537
marco.valli@unicredit.eu

References

- Boulhol, H., "Objectives and challenges in the implementation of a universal pension system in France", OECD Economics Department Working Papers N°. 1553, OECD, May 2019
- Bozio, A., Lallemand, C., Rabaté, S, Rain, A. and Tô Maxime, « Réforme des retraites : quels effets redistributifs attendus ? », Note IPP n°44, Institut des politiques publiques, Juin 2019
- Bozio, A., Rabaté, S, Rain, A. and Tô Maxime, "Quel pilotage pour un système de retraite en points ? », Note IPP n°43, Institut des politiques publiques, Juin 2019
- Bozio, A., Rabaté, S, Rain, A. and Tô Maxime, "Faut-il un âge de référence dans un système de retraite en points ? », Note IPP n°42, Institut des politiques publiques, Juin 2019
- Conseil d'orientation des retraites, « Évolutions et perspectives des retraites en France, » Rapport annuel du COR, June 2019
- Delevoye, J., « Vers un système universel de retraite », Conférence de l'Institut des politiques publiques, Juin 2019
- OECD, Pensions at a Glance 2017, OECD, 2017
- OECD, Preventing Ageing Unequally, OECD, 2017

⁵ As evidenced by Antoine Bozio (whose work has largely inspired the reforms prepared by Mr. Delevoye), this is not always the case in the current system, where some additional quarters can be considered ineffective if a worker has already contributed to a sufficient period.

⁶ on private-sector employees

Previous editions of Economics Thinking

- » Assessing global and regional imbalances - 28 June 2019
- » Financial cycles in the eurozone: no signs of immediate risk - 5 June 2019
- » 'Winners' and 'losers' in the eurozone's low interest rate environment - 14 May 2019
- » Trump's auto-tariffs threat: trade linkages and market implications - 8 May 2019
- » Assessing the impact of Italy's sovereign stress on the real economy - 22 March 2019
- » Global outlook weighs on eurozone car sector - 15 February 2019
- » China's infrastructure plan likely to raise government's contingent liabilities - 6 February 2019
- » Dissecting the slowdown in eurozone exports - 17 January 2019
- » Italy: Budget should have done more to address weak capital accumulation and sluggish potential growth - 14 December 2018
- » Sweden: High household indebtedness complicates the Riksbank's interest rate normalization - 23 October 2018
- » The drivers of EM capital flows - 28 September 2018
- » European venture capital: unleashing potential - 11 September 2018
- » What if? Trade wars and global supply chains - 7 September 2018
- » US: Is the wealth effect dead? - 30 August 2018
- » CNY-denominated commodities won't fly without CNY convertibility - 27 July 2018
- » Eurozone firms are more resilient to a tightening of financial conditions - 19 July 2018
- » Progress in integrating refugees on German labor market - 9 July 2018
- » French corporate debt: taking advantage of cheap financing - 15 June 2018
- » A turning point in the global economy? - 8 June 2018
- » The problems with the Swiss Sovereign Money Initiative - 5 June 2018
- » The productivity puzzle: the Digital Revolution has yet to come - 11 May 2018
- » How the US-Eurozone growth differential gets revised away - 27 April 2018
- » US tariffs: estimating the cost to European industry - 26 April 2018
- » Italy: potential growth on the rise, but could be boosted further - 6 April 2018
- » US-China trade threats: a dangerous game - 22 March 2018
- » Germany: Comeback of the Phillips curve - 26 February 2018
- » US small businesses: Sentiment vs. Activity - 13 February 2018
- » Greece: the exit looks near - 2 February 2018
- » The oil rally is about to run out of steam - 26 January 2018
- » Eurozone consumers: bullish, but reluctant to dissave - 18 January 2018
- » Why the Fed will not switch to price-level targeting - 11 January 2018
- » No, Virginia, the US is not a 3% growth economy - 12 December 2017
- » Eurozone investment is set to stage a comeback - 10 November 2017
- » French labor market reform to boost productivity - 26 October 2017
- » A stronger euro: implications for EMU growth and why we do not worry - 20 October 2017
- » The Wage Phillips Curve: Has it moved? - 13 October 2017
- » Corporate tax cuts will benefit shareholders not economic growth - 26 September 2017
- » Demystifying the decline in US core inflation - 26 July 2017
- » Why we expect oil prices at USD 50/bbl to be an equilibrium - 21 July 2017
- » Cryptocurrencies: They aren't money but the technology is here to stay - 7 July 2017
- » Why the ECB is right on sequencing - 30 June 2017

Legal Notices

Glossary

A comprehensive glossary for many of the terms used in the report is available on our website: [link](#)

Disclaimer

Our recommendations are based on information obtained from or are based upon public information sources that we consider to be reliable, but for the completeness and accuracy of which we assume no liability. All information, estimates, opinions, projections and forecasts included in this report represent the independent judgment of the analysts as of the date of the issue unless stated otherwise. We reserve the right to modify the views expressed herein at any time without notice. Moreover, we reserve the right not to update this information or to discontinue it altogether without notice. This report may contain links to websites of third parties, the content of which is not controlled by UniCredit Bank. No liability is assumed for the content of these third-party websites.

This report is for information purposes only and (i) does not constitute or form part of any offer for sale or subscription of or solicitation of any offer to buy or subscribe for any financial, money market or investment instrument or any security, (ii) is neither intended as such an offer for sale or subscription of or solicitation of an offer to buy or subscribe for any financial, money market or investment instrument or any security nor (iii) as marketing material within the meaning of applicable prospectus law. The investment possibilities discussed in this report may not be suitable for certain investors depending on their specific investment objectives and time horizon or in the context of their overall financial situation. The investments discussed may fluctuate in price or value. Investors may get back less than they invested. Fluctuations in exchange rates may have an adverse effect on the value of investments. Furthermore, past performance is not necessarily indicative of future results. In particular, the risks associated with an investment in the financial, money market or investment instrument or security under discussion are not explained in their entirety.

This information is given without any warranty on an "as is" basis and should not be regarded as a substitute for obtaining individual advice. Investors must make their own determination of the appropriateness of an investment in any instruments referred to herein based on the merits and risks involved, their own investment strategy and their legal, fiscal and financial position. As this document does not qualify as an investment recommendation or as a direct investment recommendation, neither this document nor any part of it shall form the basis of, or be relied on in connection with or act as an inducement to enter into, any contract or commitment whatsoever. Investors are urged to contact their bank's investment advisor for individual explanations and advice.

Neither UniCredit Bank AG, UniCredit Bank AG London Branch, UniCredit Bank AG Milan Branch, UniCredit Bank AG Vienna Branch, UniCredit Bank Austria AG, UniCredit Bulbank, Zagrebačka banka d.d., UniCredit Bank Czech Republic and Slovakia, ZAO UniCredit Bank Russia, UniCredit Bank Czech Republic and Slovakia Slovakia Branch, UniCredit Bank Romania, UniCredit Bank AG New York Branch nor any of their respective directors, officers or employees nor any other person accepts any liability whatsoever (in negligence or otherwise) for any loss howsoever arising from any use of this document or its contents or otherwise arising in connection therewith.

This report is being distributed by electronic and ordinary mail to professional investors, who are expected to make their own investment decisions without undue reliance on this publication, and may not be redistributed, reproduced or published in whole or in part for any purpose.

This report was completed and first published on 24 July 2019 at 14:30.

Responsibility for the content of this publication lies with:

UniCredit Group and its subsidiaries are subject to regulation by the European Central Bank

a) UniCredit Bank AG (UniCredit Bank, Munich or Frankfurt), Arabellastraße 12, 81925 Munich, Germany, (also responsible for the distribution pursuant to §34b WpHG). Regulatory authority: "BaFin" – Bundesanstalt für Finanzdienstleistungsaufsicht, Marie-Curie-Str. 24-28, 60439 Frankfurt, Germany.

b) UniCredit Bank AG London Branch (UniCredit Bank, London), Moor House, 120 London Wall, London EC2Y 5ET, United Kingdom. Regulatory authority: "BaFin" – Bundesanstalt für Finanzdienstleistungsaufsicht, Marie-Curie-Str. 24-28, 60439 Frankfurt, Germany and subject to limited regulation by the Financial Conduct Authority, 12 Endeavour Square, London E20 1JN, United Kingdom and Prudential Regulation Authority 20 Moorgate, London, EC2R 6DA, United Kingdom. Further details regarding our regulatory status are available on request.

c) UniCredit Bank AG Milan Branch (UniCredit Bank, Milan), Piazza Gae Aulenti, 4 - Torre C, 20154 Milan, Italy, duly authorized by the Bank of Italy to provide investment services. Regulatory authority: "Bank of Italy", Via Nazionale 91, 00184 Roma, Italy and Bundesanstalt für Finanzdienstleistungsaufsicht, Marie-Curie-Str. 24-28, 60439 Frankfurt, Germany.

d) UniCredit Bank AG Vienna Branch (UniCredit Bank, Vienna), Rothschildplatz 1, 1020 Vienna, Austria. Regulatory authority: Finanzmarktaufsichtsbehörde (FMA), Otto-Wagner-Platz 5, 1090 Vienna, Austria and subject to limited regulation by the "BaFin" – Bundesanstalt für Finanzdienstleistungsaufsicht, Marie-Curie-Str. 24-28, 60439 Frankfurt, Germany. Details about the extent of our regulation by the Bundesanstalt für Finanzdienstleistungsaufsicht are available from us on request.

e) UniCredit Bank Austria AG (Bank Austria), Rothschildplatz 1, 1020 Vienna, Austria. Regulatory authority: Finanzmarktaufsichtsbehörde (FMA), Otto-Wagner-Platz 5, 1090 Vienna, Austria

f) UniCredit Bulbank, Sveta Nedelya Sq. 7, BG-1000 Sofia, Bulgaria. Regulatory authority: Financial Supervision Commission (FSC), 16 Budapeshta str., 1000 Sofia, Bulgaria

g) Zagrebačka banka d.d., Trg bana Josipa Jelačića 10, HR-10000 Zagreb, Croatia. Regulatory authority: Croatian Agency for Supervision of Financial Services, Franje Račkoga 6, 10000 Zagreb, Croatia

h) UniCredit Bank Czech Republic and Slovakia, Želetavská 1525/1, 140 92 Praga 4, Czech Republic. Regulatory authority: CNB Czech National Bank, Na Příkopě 28, 115 03 Praga 1, Czech Republic

i) ZAO UniCredit Bank Russia (UniCredit Russia), Prechistsenskaya nab. 9, RF-119034 Moscow, Russia. Regulatory authority: Federal Service on Financial Markets, 9 Leninsky prospekt, Moscow 119991, Russia

j) UniCredit Bank Czech Republic and Slovakia, Slovakia Branch, Šancova 1/A, SK-813 33 Bratislava, Slovakia. Regulatory authority: CNB Czech National Bank, Na Příkopě 28, 115 03 Praha 1, Czech Republic and subject to limited regulation by the National Bank of Slovakia, Imricha Karvaša 1, 813 25 Bratislava, Slovakia. Regulatory authority: National Bank of Slovakia, Imricha Karvaša 1, 813 25 Bratislava, Slovakia

k) UniCredit Bank Romania, Bucharest 1F Expozitiei Boulevard, 012101 Bucharest 1, Romania. Regulatory authority: National Bank of Romania, 25 Lipscani Street, 030031, 3rd District, Bucharest, Romania

l) UniCredit Bank AG New York Branch (UniCredit Bank, New York), 150 East 42nd Street, New York, NY 10017. Regulatory authority: "BaFin" – Bundesanstalt für Finanzdienstleistungsaufsicht, Marie-Curie-Str. 24-28, 60439 Frankfurt, Germany and New York State Department of Financial Services, One State Street, New York, NY 10004-1511

Further details regarding our regulatory status are available on request.

ANALYST DECLARATION

The analyst's remuneration has not been, and will not be, geared to the recommendations or views expressed in this report, neither directly nor indirectly.

All of the views expressed accurately reflect the analyst's views, which have not been influenced by considerations of UniCredit Bank's business or client relationships.

POTENTIAL CONFLICTS OF INTERESTS

You will find a list of keys for company specific regulatory disclosures on our website <https://www.unicreditresearch.eu/index.php?id=disclaimer>.

RECOMMENDATIONS, RATINGS AND EVALUATION METHODOLOGY

You will find the history of rating regarding recommendation changes as well as an overview of the breakdown in absolute and relative terms of our investment ratings, and a note on the evaluation basis for interest-bearing securities on our website <https://www.unicreditresearch.eu/index.php?id=disclaimer> and <https://www.unicreditresearch.eu/index.php?id=legalnotices>.

ADDITIONAL REQUIRED DISCLOSURES UNDER THE LAWS AND REGULATIONS OF JURISDICTIONS INDICATED

You will find a list of further additional required disclosures under the laws and regulations of the jurisdictions indicated on our website

<https://www.unicreditresearch.eu/index.php?id=disclaimer>.

E 19/3

UniCredit Research*

Macro Research



Erik F. Nielsen
Group Chief Economist
Global Head of CIB Research
+44 207 826-1765
erik.nielsen@unicredit.eu



Dr. Ingo Heimig
Head of Research Operations
& Regulatory Controls
+49 89 378-13952
ingo.heimig@unicredit.de

Head of Macro Research



Marco Valli
Head of Macro Research
Chief European Economist
+39 02 8862-0537
marco.valli@unicredit.eu

European Economics Research



Dr. Andreas Rees
Chief German Economist
+49 69 2717-2074
andreas.rees@unicredit.de



Dr. Loredana Federico
Chief Italian Economist
+39 02 8862-0534
loredanamaría.federico@unicredit.eu



Stefan Bruckbauer
Chief Austrian Economist
+43 50505-41951
stefan.bruckbauer@unicreditgroup.at



Daniel Vernazza, Ph.D.
Chief International Economist
+44 207 826-7805
daniel.vernazza@unicredit.eu



Tullia Bucco
Economist
+39 02 8862-0532
tullia.bucco@unicredit.eu



Edoardo Campanella
Economist
+39 02 8862-0522
edoardo.campanella@unicredit.eu



Walter Pudschedl
Economist
+43 50505-41957
walter.pudschedl@unicreditgroup.at



Chiara Silvestre
Economist
chiara.silvestre@unicredit.eu



Dr. Thomas Strobel
Economist
+49 89 378-13013
thomas.strobel@unicredit.de

EEMEA Economics Research



Dan Bucsa
Chief CEE Economist
+44 207 826-7954
dan.bucsa@unicredit.eu



Gökçe Çelik
Senior CEE Economist
+44 207 826-6077
gokce.celik@unicredit.eu



Mauro Giorgio Marrano
Senior CEE Economist
+43 50505-82712
mauro.giorgiomarrano@unicredit.de



Artem Arkhipov
Head, Macroeconomic Analysis
and Research, Russia
+7 495 258-7258
artem.arkhipov@unicredit.ru



Hrvoje Dolenc
Chief Economist, Croatia
+385 1 6006-678
hrvoje.dolenc@unicreditgroup.zaba.hr



Dr. Ágnes Halász
Chief Economist, Head of Economics and
Strategic Analysis, Hungary
+36 1 301-1907
agnes.halasz@unicreditgroup.hu



Ľubomír Koršňák
Chief Economist, Slovakia
+421 2 4950 2427
lubomir.korsnak@unicreditgroup.sk



Anca Maria Negrescu
Senior Economist, Romania
+40 21 200-1377
anca.negrescu@unicredit.ro



Kristofor Pavlov
Chief Economist, Bulgaria
+359 2 923-2192
kristofor.pavlov@unicreditgroup.bg



Pavel Sobišek
Chief Economist, Czech Republic
+420 955 960-716
pavel.sobisek@unicreditgroup.cz

UniCredit Research, Corporate & Investment Banking, UniCredit Bank AG, Am Eisbach 4, D-80538 Munich, globalresearch@unicredit.de
Bloomberg: UCCR, Internet: www.unicreditresearch.eu

MR 19/2

*UniCredit Research is the joint research department of UniCredit Bank AG (UniCredit Bank, Munich or Frankfurt), UniCredit Bank AG London Branch (UniCredit Bank, London), UniCredit Bank AG Milan Branch (UniCredit Bank, Milan), UniCredit Bank AG Vienna Branch (UniCredit Bank, Vienna), UniCredit Bank Austria AG (Bank Austria), UniCredit Bulbank, Zagrebačka banka d.d., UniCredit Bank Czech Republic and Slovakia, ZAO UniCredit Bank Russia (UniCredit Russia), UniCredit Bank Romania.