# THE OUTLOOK FOR PENSION SPENDING AND THE ROLE OF A RESERVE FUND

Falilou Fall[*] and Nicolas Ferrari[*]

Thanks to the abundant baby boom generations, for the past several decades demographics have been highly favourable to pensions funding. This benign situation is coming to an end as these generations reach retirement. Much of the attendant increase in pension spending is set to last, thanks notably to the durable rise in life expectancy.

This is because the baby boom initially increased the proportion of children in the French population, and then, from the 1970s onwards, that of people of working age able to contribute. The increasing generosity of the French pension system was based on this highly propitious demographic situation. However, these favourable demographics partially hid the underlying ageing of the population and began to dwindle starting in 2006, as the first baby boomers took retirement. It will fade completely after 2030. After that date, the baby boom will no longer have any impact on the population's age structure, which will revert to its long-term trend.

Figure 1

Population Dependency Ratio

(ratio of population aged 55 and over to the population aged 15-64)
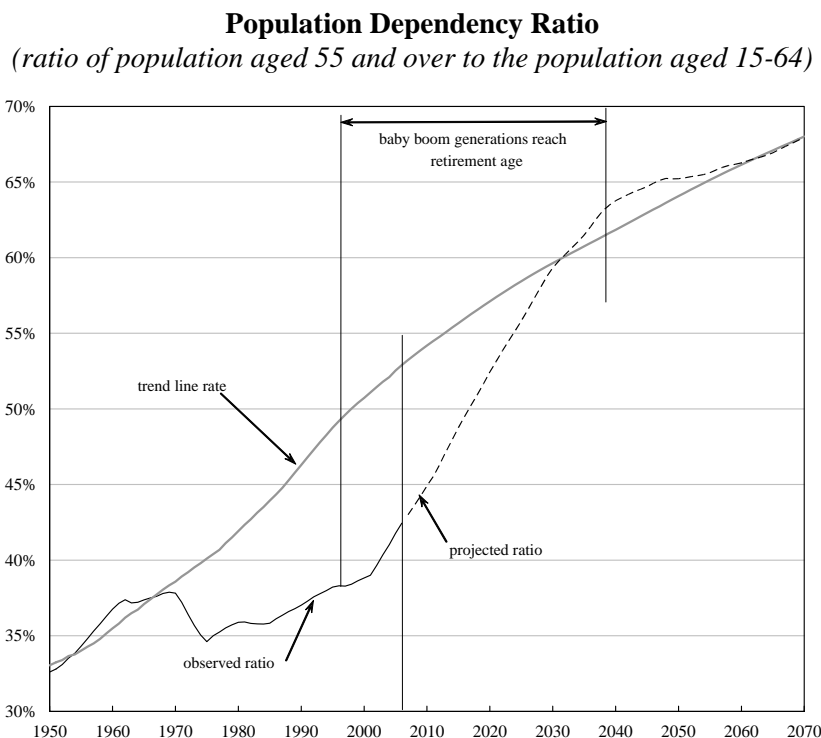
Sources: INSEE, INED, DGTPE calculations.

To smooth the temporary baby boom shock, a reserve fund ought to have been put in place starting in the 1970s, in order to build up surpluses during the entire period of favourable demographics. Instead, the system became increasingly generous, in proportions well above the leeway provided by the demographic situation, leading to the emergence of deficits. Consequently, even if it is unable to smooth the baby boom shock, the Fonds de Réserve pour les Retraites (FRR or Pension Reserve Fund) put in place in 2000 can help to smooth the rise in spending as these more abundant generations reach retirement (*i.e.,* smooth the necessary

_____

[*]   Ministère de l'Economie, de l'Industrie et de l'Emploi, France.

This study was prepared under the authority of the Treasury and Economic Policy General Directorate and does not necessarily reflect the position of the Ministry for the Economy, Industry and Employment.

It was published for the first time in June 2008 for Trésor-Economics as No. 39.

adjustments); alternatively, it could serve as a long-term fund to finance pensions, or it could cushion the shock brought about by the temporary drop in the birth rate at the end of the 20th century.

The Fonds de Réserve pour les Retraites (FRR or Pension Reserve Fund) was set up by the Social Security Finance Act in 1999. The intention was to build up a sizeable financial reserve from which it would be possible to draw down later in order to finance higher pension spending due to population ageing. At a time when public finances were briefly recovering, the aim was to spread the additional ageing-related charges over a longer period of time, notably drawing inspiration from other countries (Box 2). Under the 1999 Social Security Finance Act, amounts paid into the fund were placed in a reserve until 2020 for the benefit of the *Caisse Nationale d'Assurance Vieillesse* (CNAV or National Old Age Insurance Fund) and the pension schemes aligned with it.[1] The stated aim was to accumulate 1,000 billion francs (150 billion euros) by 2020 in order to cope with the imbalances over the period 2020-40 (see Box 3).

The FRR originated in the acknowledgment that old-age insurance spending was set to surge with the retirement of the baby boom generations. This has indeed has been happening since 2006, and the number of people subject to the CNAV scheme retiring has risen from a rate of 500,000 a year to 750,000.

1   After three especially favourable decades, the demographics underlying pension funding are reverting to long-term trend

1.1   Demographic shocks are modifying the conditions governing the funding of pensions systems

In a pay-as-you-go pension scheme, contributions paid out of the income of the working population serve immediately to pay retirees' pensions. A pay-as-you-go pension scheme is in balance each year if total contributions paid in equal total benefits paid out. This balance is achieved when the contribution rate is equal to the product of the average replacement rate (average pension relative to average wage) and of the economic dependency ratio (number of pensioners relative to the number of contributors).

All other things being equal, population trends affect the dependency ratio, thereby modifying the pension systems' financial situation. If the trends are structural, the parameters of the pension systems will need to be modified. Thus population ageing connected with the underlying rise in life expectancy is leading to an increase in economic dependency ratio. Accordingly, there are three "levers" that can help to keep the pensions systems solvent:

• raising contributions (or other receipts);

• reducing the replacement rate;

• lengthening the effective period of contribution, thereby reducing the economic dependency ratio by postponing the average age at which people retire and by increasing economic activity rates.

In the event of a transitory demographic shock (as for example with the surplus of births in the baby boom), it is possible to let the pay-as-you-go system move temporarily away from equilibrium, either by accumulating reserves (in the event of a positive shock), or by borrowing (in

---

[1]   The *CNAV* is the old-age pension sector of the "general (pension) scheme", the equivalent schemes being the *ORGANIC* (*Organisation Autonome Nationale de l'Industrie et du Commerce* – Autonomous National Organisation for Industry and Trade), the *CANCAVA* (*Caisse Autonome Nationale de Compensation d'Assurance Vieillesse des Artisans* – National Autonomous Old-age Insurance Compensation Fund for Crafts and Tradespeople) and the employees' scheme with the *Mutualité Sociale Agricole* (*MSA* – Farmers' Mutual Welfare Fund).

the case of a negative shock). In that sense, a reserve fund could be seen as a fourth additional lever for the funding of the pay-as-you-go retirement system.

1.2   *The deteriorating demographic dependency ratio is a long-term trend*

Future variations in the economic dependency ratio can be foreseen based on projections of the demographic dependency ratio, which is defined as the ratio of the population aged 55 and over (*i.e.*, the population liable to be retired) to the population aged 15-64 (the population liable to be economically active). This is expected to rise sharply in the coming decades. Between 1960 and 2005, the ratio rose by only 5 percentage points, from 37 to 42 per cent. According to the latest INSEE projections, this ratio is expected to increase by 23 percentage points between 2005 and 2050, rising to 65 per cent (see Figure 1).

Three factors allow us to break down trends in the population structure, namely: mortality rates, birth rates, and migration. These three factors have very different impacts on the demographic dependency ratio.

Over the very long period, the change in the dependency ratio is very powerfully affected by the sharp gains in life expectancy achieved in the 19th and 20th centuries: lower mortality rates are leading to a larger proportion of elderly people in the population. This long-term trend has nevertheless experienced a number of upsets due to war (the Napoleonic Wars, the Franco-Prussian War of 1870, and the First and Second World Wars, see Figure 5a and b), which sharply increased the mortality rate.

Box 1
Modelling the long-term trend

Central scenario

The demographic projections presented here are taken from the central scenario in the latest INSEE projections (July 2006). The scenario's main assumptions are:
- the mortality rate continues to fall at the pace observed over the past 15 years, bringing with it a life expectancy at birth of 89.0 years for women and 83.8 years for men in 2050;
- the cyclical index of fertility is 1.9 children per woman,
- the migratory balance is +100,000 people per year.

INSEE projections are available only until 2050. They have been extended beyond that date using these assumptions.[2]

The trend demographic dependency ratio (*i.e.*, the number of people aged 55 and over relative to those aged 15-64, excluding demographic shocks) was calculated projecting a fictitious population with the aid of long-term trends in mortality rates, birth rates and migration.

- Actual mortality quotients have been used for the past, except in the case of wars, when they have been smoothed. For projection purposes, the INSEE mortality rate scenario has been applied (Figure 5a and b);

---

[2] More precisely, fertility by age remains at the level picked by INSEE from 2010 onwards. The profile of the migratory balance by age and sex remains at its level projected by INSEE. The rate of migratory increase remains at its 2050 level. Finally, the reduction in the mortality quotients predicted by INSEE is extended beyond 2050 (log-linear decline).

Falilou Fall and Nicolas Ferrari

- Fertility has come down from 5.4 children per woman in 1740 to 1.9 from 1980 on (Figure 4);

- The migratory replacement rate is maintained constant at a level consistent with a net migratory inflow of 100,000 people per year.

It should be noted that the migratory assumption has little impact on the demographic dependency ratio: the gaps between the observed (and then projected) ratio and this trend ratio stems primarily from the birth-rate shocks.

Birth rate variant scenarios

The birth-rate assumption plays a dual role here:

- it serves to project the age structure;

- it leads to the definition of the long-term birth rate equilibrium and hence to an assessment of past birth-rate deficits.

In the central scenario, we have assumed that the trend and project birth rates were equal to 1.9. But
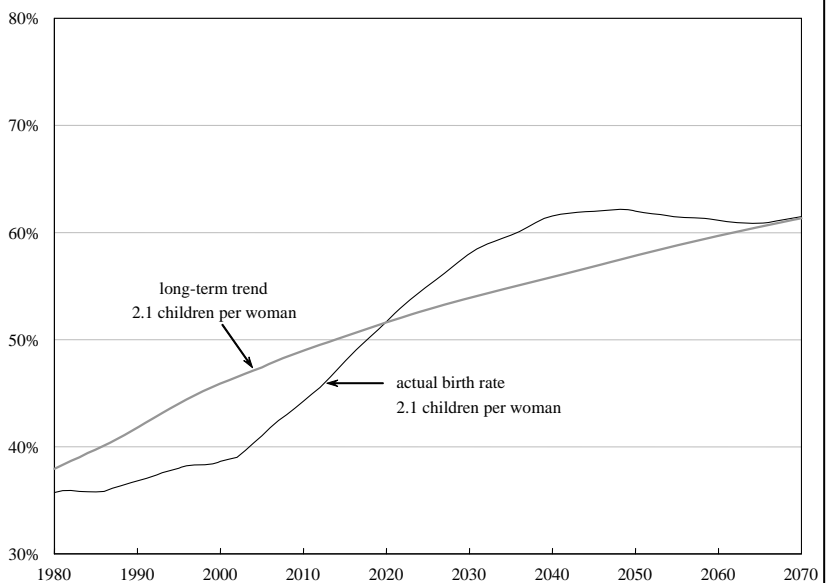
Figure 2

Dependency Ratio Depending on the Actual Birth Rate
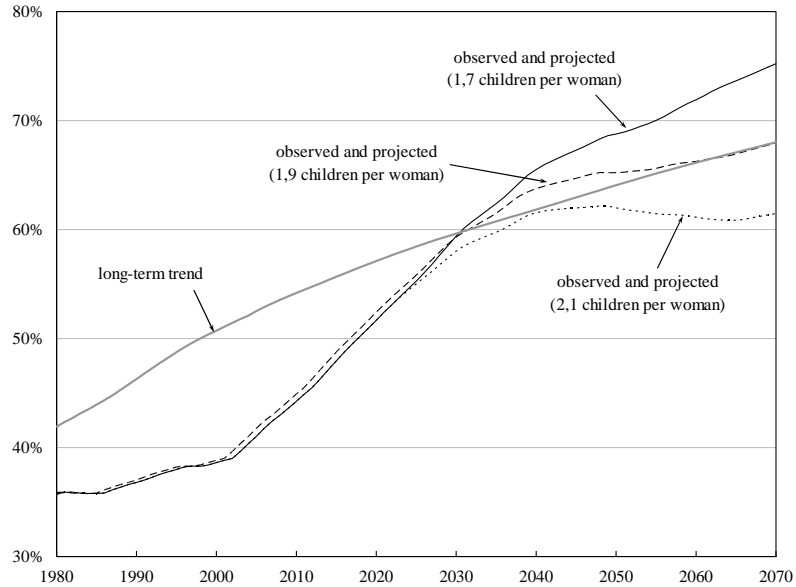
Scope: Metropolitan France.
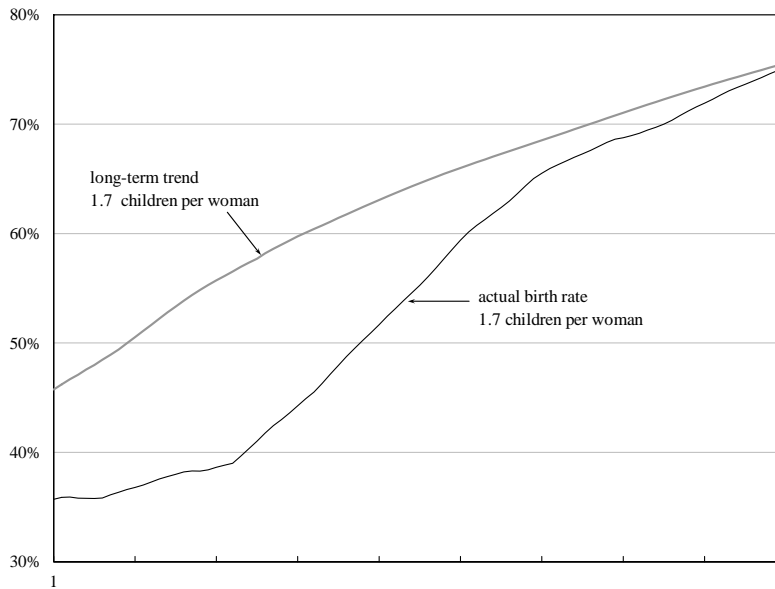Source: INSEE, INED, DGTPE calculations.

Figure 3

Actual and Trend Ratio in the High-birth Rate Scenario

Scope: Metropolitan France.
Source: INSEE, INED, DGTPE calculations.

Figure 4

Actual and Trend Ratio in the Low Birth-rate Scenario

Scope: Metropolitan France.
Source: INSEE, INED, DGTPE calculations.

in fact these rates can vary. Two types of birth-rate variants are therefore necessary, in answer to two distinct questions:

1) What would be the gap between the trend ratio under this central assumption (1.9 children per woman) and the actual ratio with a projected birth rate different from 1.9?

2) What are the birth rate shocks that need to be made good if the very long-term birth rate equilibrium is higher (2.1 children per woman) or lower (1.7 children per woman) than the assumption of 1.9 children per woman?

a) If the long-term trend is 1.9 children per woman, but the actual birth rate for the time frame considered is higher (2.1 children), the demographic ratio would never be lower than the currently envisaged trend ratio (Figure 2). Conversely, if the birth rate was lower (at 1.7 child), the ratio would be durably lower than the initially envisaged trend.

b) If one assumes that the very long-term birth rate is 2.1 children per woman, the past birth-rate deficits are very large, resulting in a significantly lower demographic dependency ratio in relation to its trend under the 1.9 children per woman assumption (see Figure 3). Conversely, if we adopt a very long-term birth-rate equilibrium assumption of 1.7 children per woman, there would be no past birth rate deficit to be made good (see Figure 4).

The specific baby boom shock comes on top of this long-term trend, consisting of a pronounced upturn in births from the end of the Second World War until the end of the 1960s (Figure 6). Far from being specific to France, the majority of industrialised countries experienced a similar shock. Whereas a continuation of the trend would have led rather to a cyclical fertility index of around 2 children per woman, the index approached 3 children per woman in the course of this period. The consequence of the demographic shock was to reduce the dependency ratio (Figure 1).

Conversely, during the 1980s and 1990s, the birth rate was slightly lower than its level observed since 2000 (the level retained in the projections). Assuming a long-term birth rate of

1.9 children per woman (the assumption adopted in the central scenario for the 2006 INSEE projections), this transitory birth deficit would lead to a worsening of the dependency ratio for the year 2006, sending it above its long-term trend between 2032 and 2062.

Migratory flows are the third factor in demographic trends. This factor has little long-term impact on the dependency ratio. This is because growth in the immigrant population increases both the working population and the retired population, in the long term. On the other hand, migratory flows can temporarily "rejuvenate" or "age" the resident population depending on the relative ages of the migrants and residents. Immigration primarily concerns people of working age, so that it tends to reduce the dependency ratio temporarily (Figure 7).

Overall, the demographic dependency ratio trend is essentially determined by long-term birth and mortality rate trends. The ratio itself may diverge from its trend primarily due to temporary birth-rate shocks and, secondarily, due to shocks resulting from migration and mortality (such as wars).
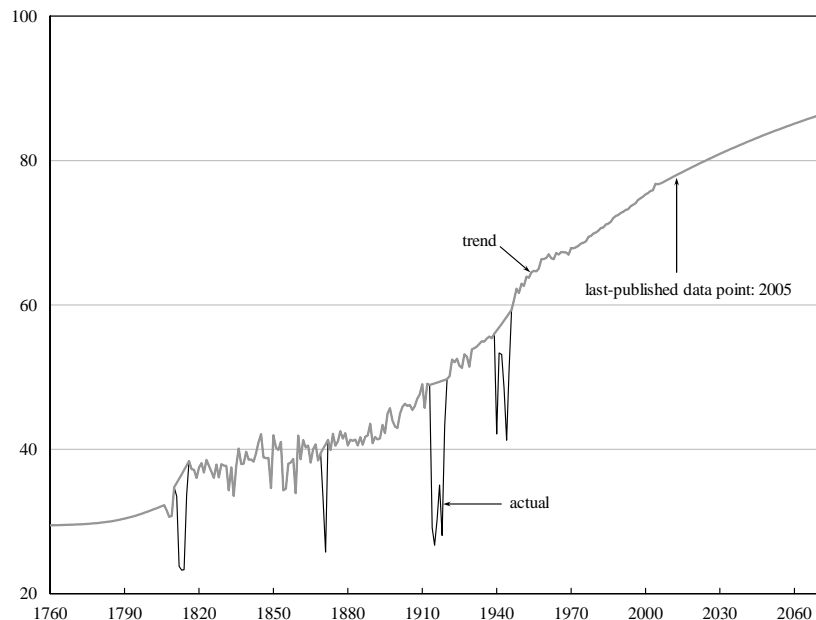
Figure 5

**Life Expectancy at Birth**

a) Women
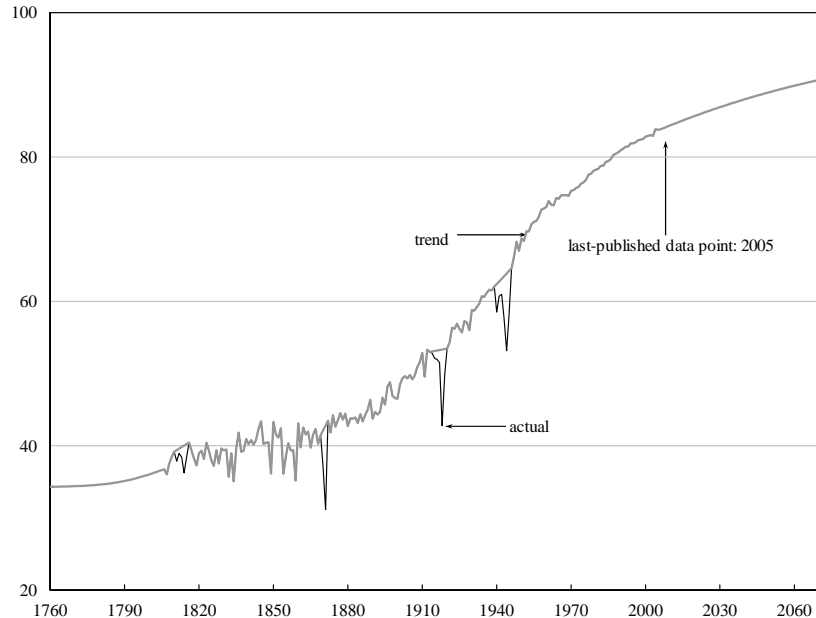
b) Men

Scope: Metropolitan France.
Note: Life expectancy at birth is calculated on the basis of mortality by age group recorded for the current year. The projected trend reflects mortality trends in the central scenario for INSEE projections in 2006. This scenario has been extended here from 2050 to 2070.
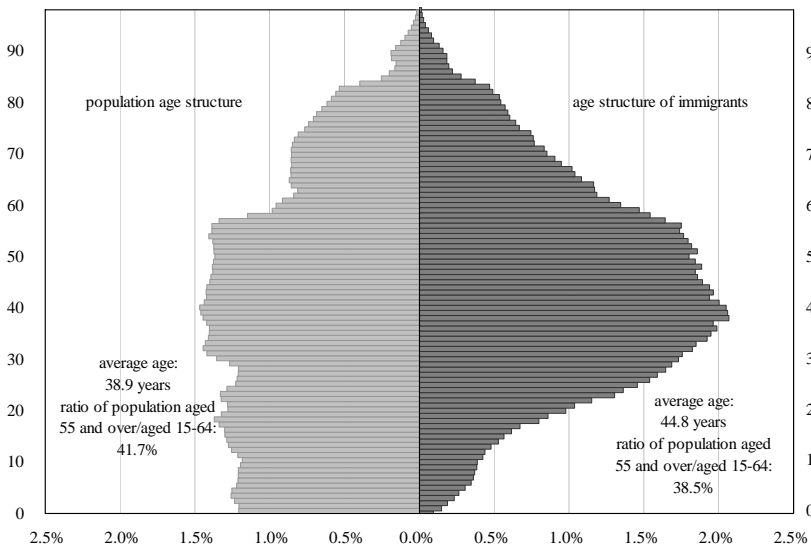Source: INSEE and INED, DGTPE calculations for the trend.

Figure 6[3]
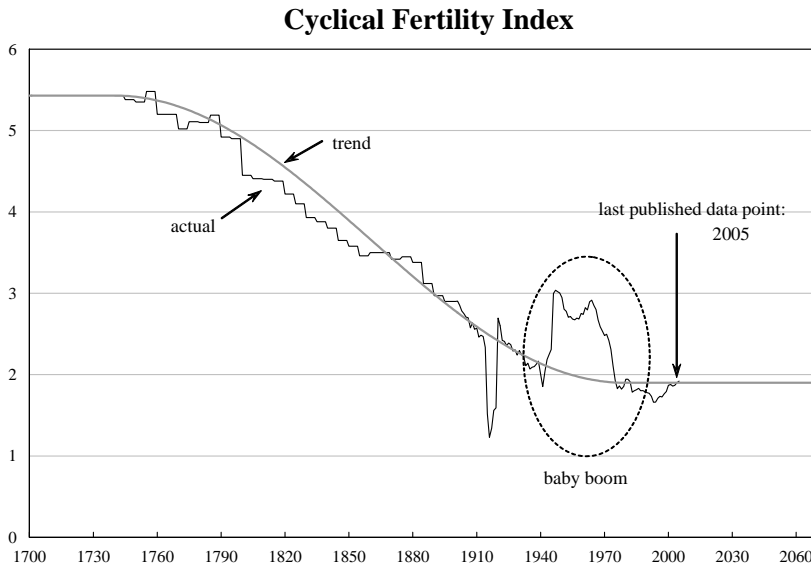
Cyclical Fertility Index

Scope: Metropolitan France.
Source: INSEE and INED, DGTPE calculations for the trend.

Figure 7

Age Structures, 2004-05

Scope: Metropolitan France.
Source: INSEE, INED, DGTPE calculations.

1.3 For more than 30 years, the baby boom contributed positively to the financial balance of the pension system

The baby boom was a massive shock in France, reducing the demographic dependency ratio for more than half a century (see Figure 1), which facilitated funding of the pension system. The expansion of the old-age insurance schemes between 1945 and 1983 consequently took place in exceptionally favourable demographic conditions in the years following 1970. Advantage was taken of these conditions not to build up reserves (see next section), but to increase the generosity of the pension system. Its parameters were altered as if this particularly benign transitory situation was in fact permanent.

The retirement of the first baby boom generations has prompted a sharp acceleration in pension spending. This phenomenon marks only the beginning of the dependency ratio's return to long-term trend, the return being completed in the 2030s.

_____

3 The cyclical fertility index measures the number of children a woman would have had throughout her life if the observed birth rate for the year considered at each age had remained unchanged. The fertility rate at a given age is the number of live births for women at that age in the course of the year relative to the average population of women of the same age in that.

Beyond 2030, the baby boom is roughly neutral in its effect on the demographic dependency ratio, the abundant retired baby boom generations being matched by equally abundant generations of working age. That is because the large cohorts of baby boomers proportionally increased the size of the following generations once their fertility rate reverted to a level close to the long term, permitting a renewal of generations. The trend will nevertheless be to a deterioration of the dependency ratio entailing a need to adapt the parameters of the pension system, notably by means of a lengthening of contribution periods.

1.4   *Demographics are slightly less benign than the trend line around 2040*

Beyond 2030, the dependency ratio is expected to worsen slightly relative to the long-term trend, for around 20 years. This is because the birth rate was lower in the last quarter of the 20th century, below the long-term target of 1.9 children per woman, thus reducing the size of the working age population at that time horizon.

However, the uncertainty at this time horizon is considerable. In particular, the long-term demographic trend is highly dependent on the target birth rate adopted (here as in the INSEE projections) of 1.9 children per woman (see Box 1 for the impact of a change of assumption on the fertility rate).

2   The possible aims of a reserve fund will determine its size and its horizon

In the light of the foregoing demographic developments, the "smoothing" objective assigned to the Pension Reserve Fund set up in 1999 is ambiguous, since the expected rise in pension spending over the coming decades is not transitory. Below we review the different functions that could be assigned to the FRR.

2.1   *A fund to smooth demographic shocks*

2.1.1   *The principle of a demographic shock smoothing fund*

In a pure pay-as-you-go system, pensions in a given year are funded exclusively by contributions for that year. In the case of temporary demographic shocks (such as a transitory drop in the birth rate, for example), it may be desirable to adapt the financial equilibrium constraint at each date by introducing reserves (or, conversely, by accepting a transitory debt). In that sense, a reserve fund is a means of smoothing the effects of temporary demographic shocks, fertility shocks in particular, *via* a form of collective capital funding. More precisely, it would serve to balance the system year by year, without permanently adjusting the three parameters, namely the contribution rate, the level of pensions, and the retirement age. *It is out of purpose here to try to compensate for a permanent shock such as deterioration in the demographic dependency ratio.* This will call for a gradual adjustment of the three aforementioned parameters, in particular lengthening the contribution period in order to avoid an undue deterioration in the economic dependency ratio.

2.1.2   *Smoothing the baby boom demographic shock?*

As explained in Section 1, a positive transitory birth-rate shock like the baby boom reduces the demographic dependency ratio for a few decades. As the smaller age groups preceding the baby boom die, the dependency ratio reverts to its long-term trend: the abundant retired baby boom generations are matched by equally abundant generations of working age (the large baby boom

population having proportionally increased the size of the following generations).

Consequently, to smooth the baby boom demographic shock (as defined in 2.1.1) it would have been necessary to build up reserves during the period in which this shock made the demographic dependency ratio more benign, *i.e.* over the entire period 1970-2030. This would have made it possible to cope with any eventual negative shock thereafter or to cushion the necessary tightening of the system as implied by the reversion to trend. Therefore, and given the high level of current and past pension system deficits, any smoothing of the baby boom shock that the FRR might provide is inherently very limited, even though the demographic context is still highly favourable.

2.1.3 *The FRR could smooth the temporary shock due to the drop in the fertility rate the end of the 20th century*

In the present circumstances, the FRR could serve to compensate during the period 2030-60 for the rise in the dependency ratio above its long-term trend due to fewer births in 1980-90 compared with the rebound since 2000, now considered to be in line with the long term trend. Additional or top-up payments into the Fund should be relatively easy to make thanks to the baby boom, which will continue to improve the demographic situation until the end of the 2020s.

This approach will entail spreading the top-up payments until around 2030. Until that date the baby boom will still imply a more favourable demographic dependency ratio than the trend. Beyond that, the ratio is expected to deteriorate relative to trend owing to the shock needing to be smoothed (namely the smaller size of contributing generations). In that case the Fund could drawdown from its reserves until around 2060. This approach would entail envisaging the Fund's extinction beyond 2060, *a priori*. However, this deadline could be revised in the light of any new shocks emerging, or if the very long-term outlook were to change.

By limiting qualifying pensions schemes to those provided for by law (*i.e.*, the "general scheme" and schemes aligned with it), and by assuming a long-term trend of 1.9 children per woman, the current top-ups would be sufficient to avoid an increase in contributions between 2030 and 2060 relative to the long-term trend.

Figure 8

Using the FRR to Smooth Demographic Shocks
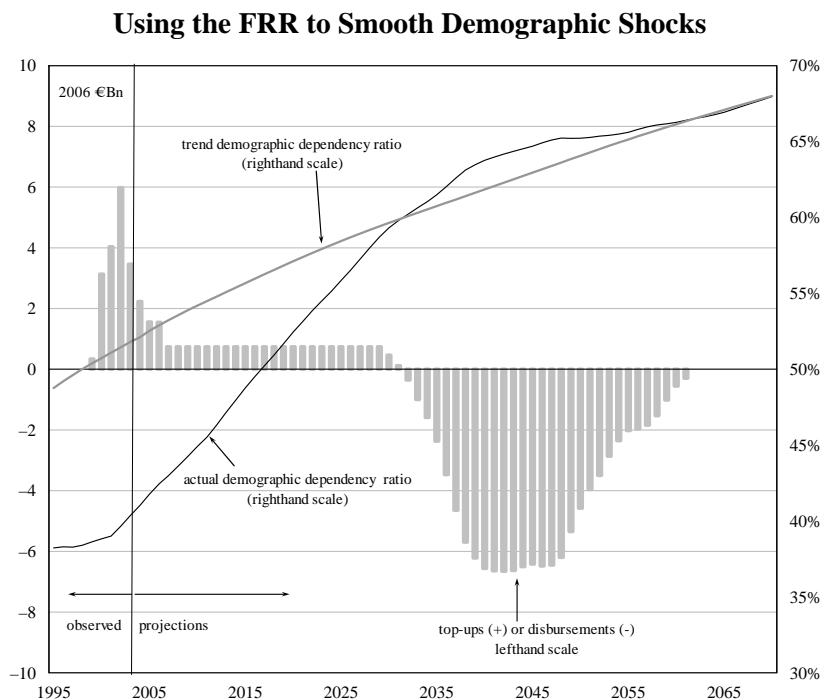
Scope: Metropolitan France.
Note: Assumption of a real return of 3 per cent, a potential growth scenario in projections, derived from *5th Report of the Commission d'orientation des retraites* (French Pensions Commission). In the trend population growth scenario, the share of GDP devoted to covered pension schemes is constant.
Source: INSEE, INED, DGTPE calculations.

2.2   *A fund to smooth the rise in baby boom-linked spending*

The FRR is often defined as a fund to smooth, not the baby boom shock, but simply the "hump" in spending resulting from this generation's arrival at retirement age. In its 3rd report, the Conseil d'Orientation des Retraites[4] proposed a smoothing function taking as its point of departure, not population trends, but future funding needs directly. The FRR was presented here as a means to accompany the pace of expected adjustments. In this case, the smoothing function was no longer linked to the gap relative to the long-term trend, but corresponds to a "linearization" of the necessary adjustments to balance the accounts of the pension schemes.[5] Thus conceived, the fund would naturally fall to zero once the shock had been smoothed.

In this approach, calibrating the FRR's smoothing function depends not only on the accelerating growth in spending resulting from the baby boom, but also from the changing parameters of the pension schemes. In addition, the date at which the Fund falls to zero is a matter of arbitrary choice, the size of the reserves required being heavily dependent on that choice.

By setting this date at 2050 (as an illustration), this approach would lead to a linearization of the necessary adjustments between 2020 and 2050: top-ups would continue at their current rate until 2020 (*i.e.*, 65 per cent of the 2 per cent "social levy" on investment income). The accumulated reserves would serve to smooth funding needs beyond that date: top-ups would progressively decline until 2025, after which disbursements from the fund would help to accompany the necessary adjustments to keep the Fund in balance. The current rate of top-ups would be sufficient for a scenario like this. It should be noted that this scenario is very fragile; it requires extending the COR's pension spending projections beyond 2050. This scenario is illustrated in Figure 9, which notably represents the changes in the average equilibrium contribution rate, defined as the relationship between benefits paid by the different pension

Figure 9

Using the FRR to Smooth Spending Growth
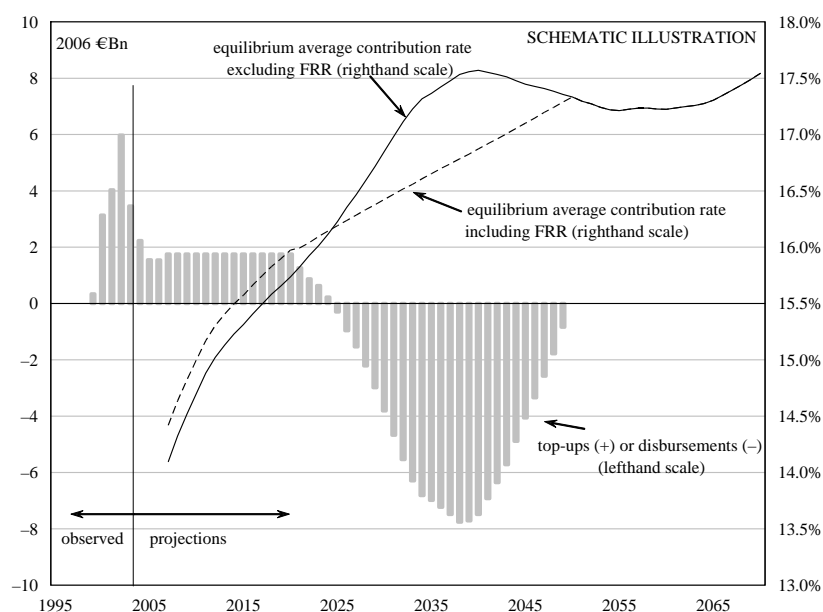
Scope: Metropolitan France.
Note: this figure schematically illustrates the use of the FRR in this approach. The equilibrium contribution rates cannot be seen as a result of projections.
Source: INSEE, INED, CCSS, DGTPE calculations.

---

[4]   The *Conseil d'orientation des retraites* (Pensions Steering Commission), founded in 2000, comprises members of both chambers of parliament, representatives of the social partners, experts, and government representatives. Its purpose is to continuously monitor and perform concerted expert appraisals of the old-age insurance system and to make proposals.

[5]   By convention, these adjustments are generally expressed in terms of "additional contribution points" required to bring accounts into balance. But they can just as easily result from a reduction in spending or a broadening of the revenue base.

BOX 2
Reserve funds in other countries

The United States and Sweden pioneered the concept of pension reserve funds in 1944 and 1960 respectively. Subsequently, growing realisation of the effects of the demographic shock led to the creation of similar funds in most of the rich countries almost simultaneously in the 1990s. While most of these funds are smoothing funds, they differ in terms of their size, forms of governance, and sources of funding and methods of control.

Norway: The *Government Pension Fund – Global* was set up in 1990 and began to be built up from 1996. This fund is managed by the Central Bank of Norway and has no legal autonomy, being under the supervision of the Ministry of Financed and controlled by parliament. Its assets were equivalent to 83 per cent of GDP in 2006 (around 278 billion USD). It is funded mainly out of oil and gas revenues.

Its assets are invested in equities (40 per cent) and bonds (60 per cent) (in 2006), and entirely outside Norway. The aim of the fund is to ensure inter-generational equity in the sharing of the financial windfall generated by the country's oil and gas resources.

The United States: The *Social Security Trust Fund* was set up in 1940. It is an integral part of the pension system and the Board of Trustees consists of members of the Federal Government and Congress. It submits an annual report to Congress. Its funds stem mainly from pension system surpluses, employers' and employees' contributions, and additional payments by government. Its assets were equivalent to more than 15 per cent of GDP, or 2,048 billion USD in 2006, and must be invested in Treasury bonds (currently entirely in US Treasury bonds). This fund has a smoothing function but is not intended to fall to zero.

Sweden: The *AP-Fonden* were set up in 1960 and reorganised in 2001. These are five Independent bodies each with its own board of directors, some of whose members are appointed by the government. Their assets were equivalent to 31 per cent of GDP in 2006 or 117 billion USD, and are invested in equities (60 per cent) bonds (6 per cent) and other asset classes (4 per cent). Their aim is to smooth the pension system's expenditures and revenues.

Japan: The *National Reserve Fund* was set up in 1959 and was progressively transformed into an independent agency between 2001 and 2006, run by Ministry of Finance experts. Its assets were equivalent to 28 per cent of GDP in 2006, or 1,217 billion USD, invested in equities (22 per cent) and bonds (52 per cent). Although this fund has no explicit aim, it may be considered as a half-way house between a smoothing fund and a permanent fund.

---

schemes and the total wage bill of contributors to those schemes. It should be noted that this scenario is based on the assumption of a lengthening of the duration of contributions in order to qualify for a full pension to 164 quarters in 2012 and 166 in 2020, the assumption used in the COR's updated projections in November 2007.

2.3   *A permanent additional pension fund*

Finally, a pension reserve fund can be designed as a permanent means of additional funding for the old-age insurance system. After the fund's build-up phase, its capital is preserved and its investment income contributes to the financing of pension spending. The fund is then akin to a

"collective pension fund". In that case, the pension system stands in a middle position between a pure pay-as-you-go system and a funded system.

This kind of fund needs a substantial capital base in order to play a significant role in the system's financing. For example, the *Charpin Report* in April 1999 envisaged a reserve equivalent to a minimum of 10 per cent of GDP (at the end of 2007, the FRR was equivalent to around 1.5 per cent of GDP). This approach calls for a substantial and durable process of accumulation. Given today's very limited financial leeway, this would imply a major financial effort. It would have been possible and less costly to implement this, had the advantage of the benign baby boom demographic shock been taken several decades ago.

Few countries have followed this path. The only countries with reserves representing 10 per cent or more of GDP in 2006 were Norway (83 per cent of GDP), Jordan (46 per cent), Sweden (31 per cent), Japan (28 per cent), South Korea (21 per cent), the United States (16 per cent) and Ireland (11 per cent) (Box 2). Either these funds were set up a long time ago, as in the cases of Jordan, Japan, Sweden, South Korea and the United States, or they have benefited from an oil and gas "windfall" as in Norway's case, or again from particularly robust economic growth as in Ireland's case.

2.4   *A fund for the short-term smoothing of economic shocks*

A possible variant scenario might be a fund for the short-term smoothing of economic shocks. This would have a short horizon, corresponding to 5 to 10-year economic cycles, requiring smaller reserves. On this view, the fund would be intended to be permanent.

3   Conclusions

The main purpose of this study was to analyse the demographic factors and their impact on pension systems, and to consider the role a reserve fund can play in the context of the divergence from the long-term equilibrium. The study deliberately does not deal with the question of the financial management of the reserves. In particular, in the projections presented in Section 2, a purely normative assumption has been used for the return on reserves, corresponding to the average return on bonds over the long period (namely a 3 per cent real return).

Actually, a reserve fund's investments may be more profitable than repayment of Government debt, thereby generating leverage. This is because, despite a substantial short- and medium-term risk, asset prices exhibit a reversion to a trend over the long period. Consequently, a reserve fund can go overweight in risky (and hence high-yield) asset classes for as long as the disbursement horizon is distant, thus benefiting from attractive returns combined with limited long-term risk. By defining its schedule of income and disbursements, the FRR can optimise its returns for a given level of risk. However, even with a distant and well defined disbursement horizon, investment in the FRR would still be riskier than paying down the public debt.

Leverage is obviously not contradictory with the Fund's assigned objective (see above). But this leverage cannot be taken as the prime function of a reserve fund, and its size cannot be precisely calibrated on this basis.

BOX 3
The history of the FRR

Taking its cue from foreign examples and the report of the *Conseil d'Analyse Economique* (Council for Economic Analysis),[6] the French Government decided in September 1998 to set up a reserve fund for the pay-as-you-go pension system. This fund was meant to be constituted "without additional (employer and employee) contributions" out of exceptional resources and the surpluses of welfare schemes and those of the Caisses d'Épargne savings banks. It was thus expected to go "a long way towards" solving the pension system shortfall looking to 2005-2010. Consisting of "several tens of billions of francs", the fund was required to invest primarily in French government securities and bonds. It was to be established and administered in consultation with the social partners.

The FRR was set up by the 1999 Social Security Funding Act within the *Fonds de Solidarité Vieillesse* (FSV Old Age Solidarity Fund). The bill's preamble stated that this reserve fund was being set up in order to preserve the future of the pay-as-you-go pension system. Three categories of income could be allocated to it, namely available surpluses from the *Contribution Sociale de Solidarité des Sociétés* (social solidarity contributions paid by companies), the surplus on the "solidarity section" of the *Fonds de Solidarité Vieillesse*, and any other resources designated by law or regulations. The Government planned to allocate 2 billion francs in 1999 under the first of these categories, with the possibility of allocating additional resources in the course of the year.

In April 1999, the *Charpin Report* raised a number of questions regarding this newly-created fund, namely: what was its objective, between "smoothing the expected increase in contribution rates" and permanently supplementing the pension schemes' resources? How to replenish this fund on the basis of this objective? What type of investment should the fund favour? And what should be the fund's form of governance?

The Government announced its intention to strengthen the reserve fund in 2000. Based on the financial projections contained in the Charpin Report, the time horizon for the fund's utilisation was put back, with disbursements starting no longer in 2005 but in 2020. The plan was to finance the fund thanks to the maintenance of a benign demographic situation until 2006, and thanks to a return to growth and full employment. The intended resources were spelled out: 500 billion francs from CNAV, FSV and CSSS surpluses were to be added to the fund's 20 billion francs at the end of 2000; of the additional 500 billion, 150 billion would be drawn from the social levies on investment income, and 330 billion from these reserves' own interest and investment income. Overall, the Fund was expected to exceed 1,000 billion francs looking to 2020. It should be noted that the Fund was set up at a time when the public finances were recovering (even though the general government financial balance has been continuously negative), notably on the strength of the robust economic growth in the late-1990s. The FRR became autonomous on 1 January 2002, taking the form of a Government administrative public institution (*établissement public de l'État à caractère administratif*) under State supervision, with a Management Board and a Supervisory Board. The 20-member Supervisory Board is made up of 4 members of parliament, five representatives of social security "insureds" designated by the five trade union confederations, five

---

[6] Davanne, O. (1998), "Eléments d'analyse sur le système de retraite français" (Elements for an Analysis of the French Pension System), *Retraites et épargne*, CAE, July.

representatives of employers and self-employed workers (two designated by the Medef-employers' federation, one by the CGPME-federation of SMEs, and one by the UPA-crafts and trades people's federation), four State representatives, and two qualified personalities.

- The Supervisory Board is responsible for setting broad guidelines for the Fund's investment policy, appointing the Statutory Auditors, controlling the Fund's performance, closing the financial statements, and drawing up a public annual report on its management.

- The Management Board of the Pensions Reserve Fund consists of three members and is chaired by the Chief Executive of the *Caisse des dépôts et consignations*. The Management Board manages the institution and is "accountable for its proper functioning". It is notably responsible for submitting broad guidelines for the Fund's investment policy to the Supervisory Board and for implementing the said guidelines, drafting specifications for invitations to tender to manage the assets of the FRR (via mandates entrusted to investment firms).

In 2003, the Supervisory Board of the Fund laid down the broad guidelines for the Fund's investment policy, appointed the asset managers' selection committee, and issued the first invitation to tender for asset management mandates. The strategic allocation is diversified, with both Eurozone and non-Eurozone equities and bonds. The predominance of equities serves to achieve high returns, the associated risk being smoothed by the distant horizon for disbursements. The process of investment gathered momentum in 2004.

The strategic allocation formulated in 2003 was refined in 2006, based on an assumption of constant disbursements over the period 2020-2040. This change of objective and the lengthening of the disbursement period has led to a shift in the strategic allocation in the direction of greater risk, an increase in the equity weighting (from 55 to 60 per cent), greater diversification, with an increase in the proportion of non-Eurozone investments and investments in property, infrastructures, raw materials and private equity.