

# A analyses Économiques

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## The Newsletter of the French Council of Economic Analysis

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### EDITORIAL

*Demography and the economy have gone hand in hand for ages. Their relationship has given rise to fantasies. The CAE report attempts to take a close, objective look at the economic impact of ageing: firstly, by specifying the demographic outlook, then by explaining the channels of interaction between demography and growth, and finally, by examining what mutual benefits rich, ageing countries and poor, but still young countries can draw from international savings flows. This leads to three conclusions: French demography is healthy, in any case healthier than in the rest of Europe; ageing is not necessarily a threat to growth; pensions represent a key issue requiring public action. This should help to dispel fantasies and make it possible to focus on the real issues.*

**Jean Pisani-Ferry**  
Executive Chairman of the CAE

## Demography and the Economy

Report by Michel Aglietta, Didier Blanchet and François Héran

Over the next half-century, France will experience a gradual shift in demographic growth and a considerable ageing of its population. Regardless of the threshold –over 60, over 65, over 70, etc.– the number of senior citizens will grow sharply.

The impact on our pension systems is now clear, especially after several reports were published on the subject in the past few years. Their broader economic ramifications, however, are not so clear, which sometimes raises concern over a possible ‘economic decline’.

The report by Michel Aglietta, Didier Blanchet and François Héran seeks to establish the economic effects of current and future demographic changes.

### No demographic decline, but inevitable ageing

From a purely demographic standpoint, the authors urge to seriously rethink the currently fashionable theory of ‘decline’. Admittedly, a cursory look at the short term fertility indicator focused on by the media (1.9 in 2001)<sup>(1)</sup> tends to suggest that the renewal of generations in France is no longer taking place. However, this indicator gives a distorted view of the birth rate, since it does not take into account the

fact that the average age of women giving birth is rising steadily. When the short term fertility indicator is adjusted in order to take this trend into account, the result is that in France, the number of births corresponds closely to what is required to ensure the renewal of generations.

Maintaining the birth rate around the threshold level for the renewal of generations (nearly 2.1 children per woman) is a positive ‘French exception’. Although significantly below the level of the baby boom, the French birth rate by far surpasses those of the vast majority of European countries.

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*Two-thirds of the European Union's demographic growth is currently attributable to France.*

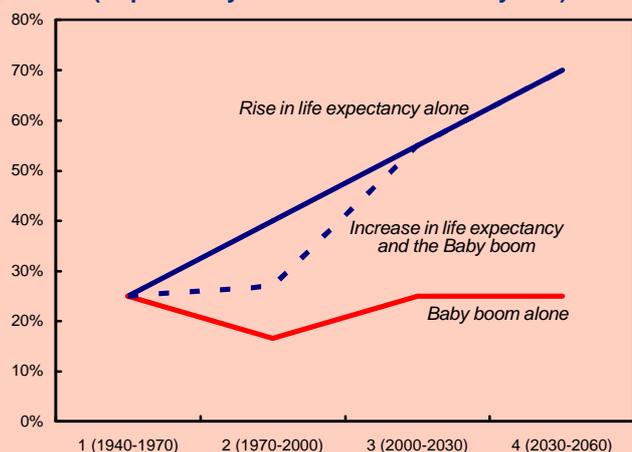
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French society's vast tolerance towards births among unwedded couples, the great importance of family benefits policy and efforts made in order to reconcile professional and family life (especially through day-care and early schooling) are some of the factors discussed by the authors to explain how such birth rate levels are maintained. But, given the lack of specific evaluations, they cannot separate the effects of family benefits policy as such from the effects of day-care or the schooling of young children, or even from those of more general sociological changes. The actual effectiveness of family benefits policy remains difficult to assess.

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(1) Measures at a given moment the average number of children that a fictitious generation will have during its child-bearing life (age 15-49) if it had, for each age, the average number of children measured at that age at the date considered.

### 1. A simplified representation of ageing (Dependency ratio of over 60 / 20-60 years)



The graph uses simplified but realistic assumptions in order to trace the basic mechanisms at work in the ageing of the French population. The actual and forecast change (middle curve), of the dependency ratio (measured here between the number of individuals having reached retirement age and the number of individuals within the age bracket of the active working population) is the result of the increase in life expectancy in older age groups (top curve) and the effects of the baby boom (bottom curve). The latter has cushioned the effect of ageing considerably over the past 30 years, and will amplify it over the next three decades. If there is no noticeable shift in the birth rate, and if the steady increase in life expectancy recorded in the last half-century continues, the dependency ratio will then continue to increase, but at a slower rate.

Source: 'Demography and the Economy' Report.

Nonetheless, the ageing of the French population is inevitable. It results essentially from ever-increasing life expectancy. It will be amplified in the coming decades by the ageing of the baby-boomers, as the post-war generation gradually reaches the highest age brackets (See graph 1).

### Economic effects should not be overestimated

The economic effects of these demographic changes should not fuel fears of impending disaster.

The risks associated with the slower pace of demographic growth are minor: its theoretically ambiguous effect on the standard of living is empirically insignificant. Ageing will lead to a sharp rise in pension and dependency costs and to a much more moderate increase in healthcare spending. Assuming unchanged trends of technical progress and productivity per age group, its effect on productivity per capita will be minimal.

Indeed, for ageing to have a significant macro-economic impact, it would have to primarily

affect the oldest age groups<sup>(2)</sup>. This is the case for pensions or dependency expenditure. It is clearly less the case for healthcare spending: people of all ages need medical treatment, and the elderly, who spend admittedly more than the rest of the population, are still less numerous than the rest of the population. Finally, the effects of ageing on changes in average productivity with age will be very modest, whatever those changes may be (graph 2).

Ageing could theoretically result in a marked drop in savings, and therefore in less growth. But empirical analyses do not reveal the expected link between the savings rate and age: depending on the interpretation of this phenomenon, the effect of ageing on household savings rates would either be negative or zero. The only unquestionable effects of demographic changes in France are increased pensions and dependency spending.

(2) If the average age associated with an expense – or with any other interest variable – is defined as the average of different ages, weighted by the expense of this age bracket in relation to total spending, this average age must be extremely far from the population's average age for the expense to be significantly affected by ageing.

In view of the above, the report examines the benefit of funded pension schemes. First of all, it emphasises the potential benefits of financial globalisation for nations which are neither at the same stage of development, nor equally advanced in demographic transitions. According to UN forecasts, the active population in developing countries should continue to grow until the middle of this century, whereas it is supposedly already stable, or even falling, in Europe and Japan, and this will also be the case in North America as of 2050 (graph 3). The current high level of savings in wealthy, ageing countries could then finance the development of poor countries, whose population is on average younger. Macro-economically, the establishment by rich countries of high-yield asset portfolios, from which they subsequently draw as their population ages, could substantially reduce the cost of pay-as-you-go pension schemes. This inter-temporal exchange would benefit everyone.

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*The only unquestionable effect of demographic trends would be an increase in pension and dependency costs.*

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This result illustrates the major potential benefits of funded pension schemes in an open economy. However, it assumes a significant correlation between age and savings patterns, and this cannot be guaranteed. It is also subject to a set of global conditions – investment security, financial stability – which have yet to be established. If these conditions are not met, the benefits of funded pension schemes are less significant, but must nevertheless not be ignored. In a closed economy, the yield on defined contribution pension schemes is affected in the same way as pay-as-you-go schemes by the ageing of the population. But adding a dose of funded pensions to a system that would remain mainly a pay-as-you-go system would unquestionably achieve risk diversification: capital returns and

pensions financed by payroll taxes do not react in the same way to macro-economic shocks (as shown during the oil crisis), nor are they subject to the same type of political risk.

### Retirement, the major risk of ageing

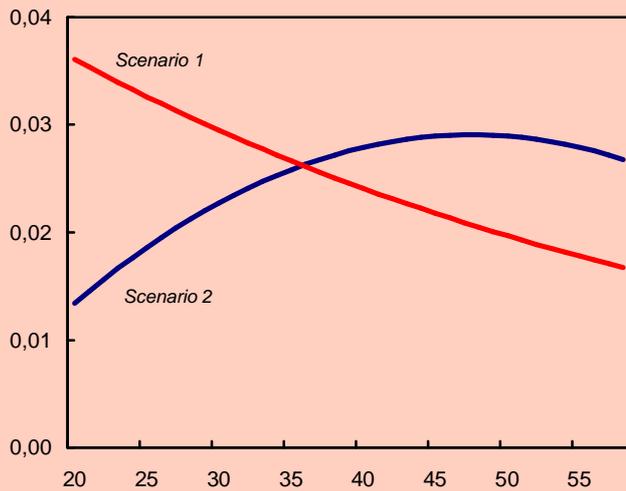
From this study of the ties between demography and the economy, pensions emerge as the main issue for economic policy arising from future demographic developments. Ageing should not prevent improvement in the population's average standard of living. It is however likely to bring about a decline in growth of approximately half a percentage point per annum between 2005 and 2040, thereby putting pressure on the distribution of income, particularly between the working populations and pensioners.

The report examines three possible options in order to confront this issue and in each instance illustrates the constraints. Increasing contribution amounts risks generating increased labour costs, especially for unskilled labour, and therefore damaging employment prospects for the least-skilled workers. The introduction of funded pensions schemes admittedly produces some benefits in terms of risk diversification as well as surplus revenue if it involves additional savings, but at the price of a sacrifice for the first generations. Raising the retirement age comes up against the difficulty of reconciling the older workers' productivity with the salary they and the rest of the population believe they are due.

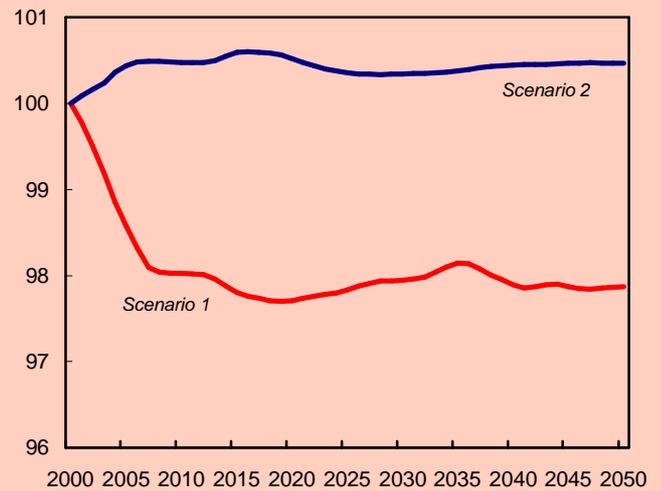
The report also puts into perspective the impact of family benefits policy in terms of immediate changes in demography: theoretically because it is difficult to define what the optimum demography would be, and empirically because the effectiveness of these policies has not been proven. Aglietta, Blanchet and Héran nevertheless recommend avoiding adjustments in family benefits policy that may be too sudden or dramatic, thereby

## 2. Impact of future demographic changes on average labour productivity

a. Two theoretical profiles of labour productivity by age



b. And their impact on aggregate labour productivity



Under the central scenario of INSEE's demographic forecasts, the impact of expected ageing trends on productivity (graph on right) is presented in relation to a base of 100 in 2000. Two extreme hypotheses of the correlation between productivity and age (graph on left) provide a broad framework for possible changes: in one extreme case (scenario 1), productivity decreases constantly with age, due to the gradual obsolescence of initial knowledge; in the other, in line with what some American research has shown, productivity develops until about age 50, then starts to fall. Despite such different hypotheses, the differences found are moderate, less than 3% in 2050 (a gain of 0.5% in the productivity level per capita in one case, and a loss of 2% in the other).

Source: 'Demography and the Economy' Report.

creating the risk of a sharp drop in the birth rate and upsetting the current existing balance between pension transfers to previous generations and the cost of educating future generations.

### Comments

In her comments, Béatrice Majnoni d'Intignano emphasises that a relatively generous family benefits policy and major efforts aimed at reconciling family and professional life have played an important role in maintaining the birth rate in France, compared with other European countries.

*Ageing countries might benefit less from the information society.*

She fears that the report underestimates the impact of ageing in France on its capacity to innovate and on the functioning of its labour market. Drawing on recent econometric research, she presents a less encouraging outlook, according to which the ageing countries might benefit less from the information society and therefore would post lower economic growth and create fewer jobs than the others.

Lastly, she expresses scepticism over the prospects of a rapid narrowing of the gap between the developing and wealthy countries that underlines the report's globalisation scenarios. Closing the gap in developing countries would imply significant improvements in the institutional framework and major investment in healthcare and education. These investments require much larger financial transfers from rich countries than those made thus far.

In his comment, Patrick Artus suggests placing more emphasis on the impact of ageing on demographic trends rather than the birth rate, whose effects are marginal. In view of the above, he expresses regret that the issue of the age until which workers remain productive was not discussed in the report.

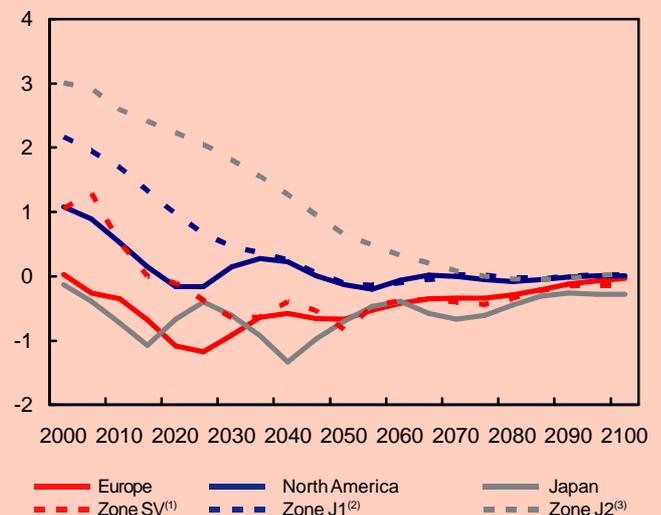
Like Béatrice Majnoni d'Intignano, Patrick Artus fears that the report underestimated the effects of demography on the standard of living and on employment. In his opinion, pensioners' savings patterns, which are not fully understood, threaten our savings and therefore our growth. He fears that the behaviour of international investors', who tend to shun

ageing countries where demand is less dynamic, will, in the long run, weigh heavily on our economy's potential to invest in new technologies.

He also doubts whether the gap between poor and wealthy countries may be closed rapidly by means of large transfers of capital. He noted that in the 1990s the United States, broadly speaking, increased their

technological lead over the rest of the world, whereas the report assumes the convergence of other countries towards the United States. He observes that significant capital imports were not to be durably upheld by developing countries during the 1990s because the accumulation of substantial external debt systematically produced severe exchange crises.

### 3. Forecasted growth rate of the labour force throughout the world



Notes: (1) East Asia and Eastern Europe; (2) South America, Indonesia and Turkey; (3) Rest of the world.

Source: 'Demography and the Economy' Report.

1. La réduction du temps de travail  
*Reduction in Working Time*
2. Partage de la valeur ajoutée  
*The Sharing of Value-Added*
3. Service public/Secteur public  
*Public Service and Public Sector*
4. Croissance et chômage  
*Growth and Unemployment*
5. Coordination européenne des politiques économiques  
*Coordination of Economic Policies in Europe*
6. Pauvreté et exclusion  
*Poverty and Social Exclusion*
7. Retraites et épargne  
*Pensions and Savings*
8. Fiscalité de l'environnement  
*Environmental Taxation*
9. Les cotisations sociales à la charge des employeurs : analyse économique  
*Social Security Contributions Paid by Employers: An Economic Analysis*
10. Innovation et croissance  
*Innovation and Growth*
11. Fiscalité et redistribution  
*Taxation and Redistribution*
12. Emplois de proximité  
*Local Employment Initiatives*
13. Régulation du système de santé  
*Regulation of the Health-Care System*
14. Instabilité du système financier international  
*Instability of the International Financial System*
15. Égalité entre femmes et hommes : aspects économiques  
*Equality between Women and Men: Economic Aspects*
16. Agriculture et négociations commerciales  
*Agriculture and Trade Negotiations*
17. L'architecture des prélèvements en France : état des lieux et voies de réforme  
*Architecture of Levies in France: Current Situation and Possible Reforms*
18. Architecture financière internationale  
*Architecture of the International Financial System*
19. Le temps partiel en France  
*Part-Time Work in France*
20. Le cycle du millénaire  
*The Millennium Round*
21. Retraites choisies et progressives  
*A Voluntary Gradual Retirement Scheme*
22. Formation tout au long de la vie  
*Life-Long Training: A Prospective Economic Analysis*
23. Réduction du chômage : les réussites en Europe  
*National Achievements in Overcoming Unemployment*
24. État et gestion publique  
*State and Public Sector Management*
25. Développement  
*Development*
26. Politiques industrielles pour l'Europe  
*Industrial Policy*
27. Questions européennes  
*European Issues*
28. Nouvelle économie  
*Economics of the New Economy*
29. Régulation des relations entre fournisseurs et distributeurs  
*Which Regulation for Trade?*
30. Plein emploi  
*Full Employment*
31. Aménagement du territoire  
*Regional and Urban Planning*
32. Prix du pétrole  
*The Oil Price*
33. Inégalités économiques  
*Economic Inequalities*
34. Enchères et gestion publique  
*Auctions and Public Affairs Management*
35. Démographie et économie  
*Demography and the Economy*

## Background Studies

The report is published together with seven supporting study.

### A. *The Economy of Transfers Between the Generations: Altruism, Equity, Indirect Reciprocity, Ambivalence...*

André Masson

### B. *Demographic and Economic Fluctuations: Some Lessons from the Past and Some Questions for the Future*

Michel Godet

### C. *Funded Pension Schemes and Pressure on Pays-as-you-go Pensions*

Michèle Debonneuil

### D. *Family Benefits Policy and the Birth Rate: An Analytical Framework Based on the Swedish Example*

Nathalie Le Bouteillec

### E. *Dependent Elderly People*

Laurence Assous, Olivier Bontout, Christel Colin and Roselyne Kerjosse

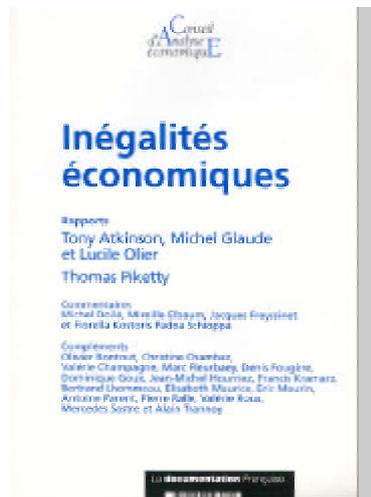
### F. *Demography and Innovation*

Frédéric Cherbonnier and Nicolas Sagnes

### G. *Elderly Workers and the Labour Market*

Geneviève Canceil

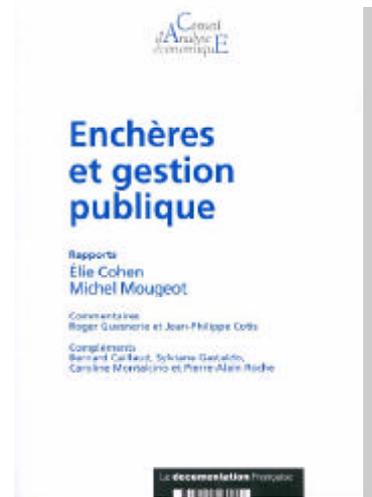
## Recently Published...



La Documentation française, Paris.

### Economic Inequalities

In contrast to what has happened in the US or the UK since the 1980s, France has not experienced a major rise in income inequality. Income dispersion is actually lower than in the 1960s. The report by Tony Atkinson and its co-authors examine this record carefully. They conclude that the minimum wage and welfare system have played a major role in this respect, but that the rise in part-time or temporary jobs is giving rise to new forms of inequality. Thomas Piketty looks at the role of the progressive income tax over a century. His main point is that its role should be looked at from a dynamic rather than a static point of view. Its main impact over time is to limit wealth accumulation, rather than to redistribute current income. Piketty thus argues against cuts in the top income tax rates.



La Documentation française, Paris.

### Auctions and Public Affairs Management

In several European countries, the allocation of 3G mobile licenses has relied on auction procedures. More generally, auctions are increasingly used in public procurement procedures. This practice is in line with recent advances in the economic theory of auctions. The report by Elie Cohen and Michel Mougeot examines under what conditions this can be considered an improvement in public management. They generally support the use of auctions, but emphasise that the design of auction procedures is of major importance in the presence of asymmetries of information. They are, however, critical of the lack of coordination between governments for the allocation of 3G licences within the European Union.