



The challenges of building durable long term care insurance offer in France

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Samuel Cywie/Délégué général | Institut des actuaires

- *Samuel is Délégué général at the Institut des actuaires. After training in actuarial science at ISFA, he worked in the financial sector in New York (Credit Lyonnais Securities) then London (Credit Lyonnais Securities and Calyon). He then moved on to management positions in the non-profit sector in the fields of sport and education.*



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- He joined the Institut des actuaires in 2019.



Aurélie Treilhou /Associate Partner | SIA (France)

- *Aurélie Treilhou is an actuary, a graduate of ISFA Lyon, also certified in management by ESSEC. With more than 20 years of experience in personal insurance, acquired in France and internationally, Aurélie is also authorized to certify experience tables. She plays a key role in the development of health and protection insurance offerings at the consulting firm SIA.*
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- *Additionally, she is highly engaged in the work of the Institut des Actuaire. As a member of the Health & Protection Commission, she leads working groups on Longevity, Disability, Long-Term Care, and she represents France within the IAA's Health Forum.*



Summary



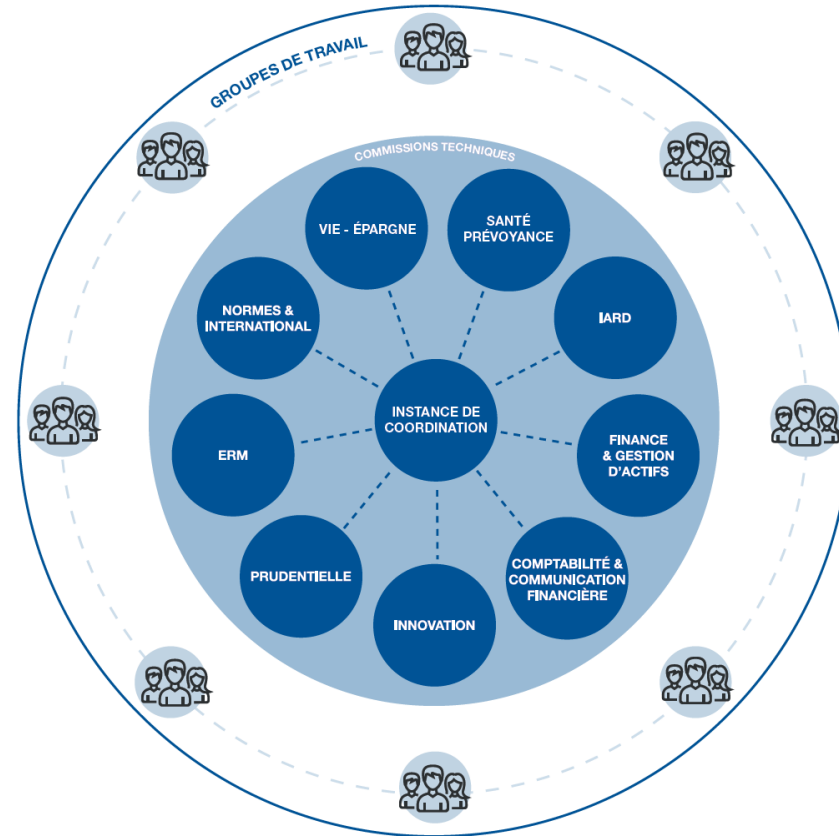
- I. Institut des actuaires & Loss of autonomy**
- II. Loss of autonomy : News and current situation**
 - 1. French people and the loss of autonomy
 - 2. Loss of autonomy insurance market
 - 3. CCSF recommendation – solidarity insurance contract
- III. International comparison**
- IV. Generalized coverage of loss autonomy model**

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- ❑ 5600 members
- ❑ 9 Technical Commissions
- ❑ 50+ working groups



- ❑ Dependency working group of Institut des actuaires launched in 2022 with 3 main objectives
 - ❑ Develop proposals to improve the readability of LTC insurance products
 - ❑ Study the feasibility of building LTC market tables
 - ❑ Broaden thinking on the subject and be a driving force behind proposals for possible changes to the regulatory framework.

- ❑ In 2026, the Board of the Institut des Actuaires identified demographic and longevity issues — including long-term care, retirement, and the broader consequences of an ageing society — as one of its three strategic priorities for research and communication.

Summary



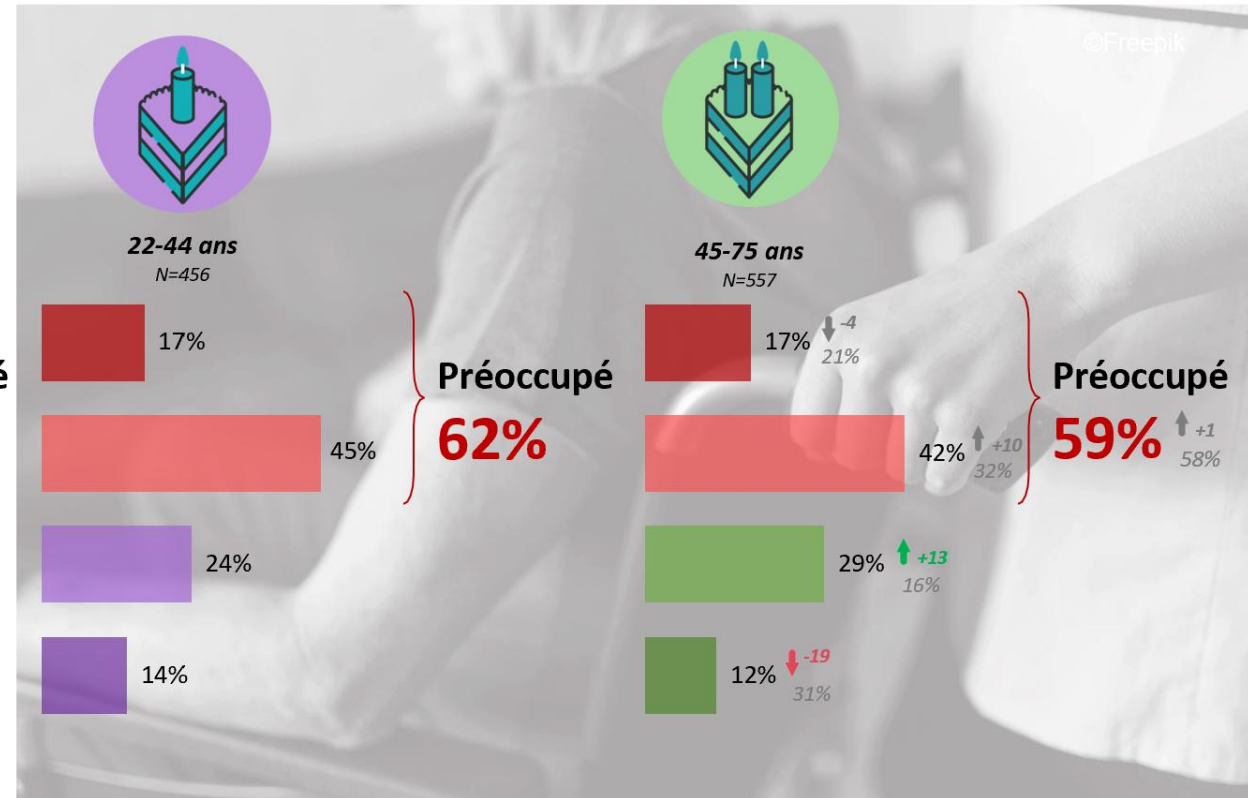
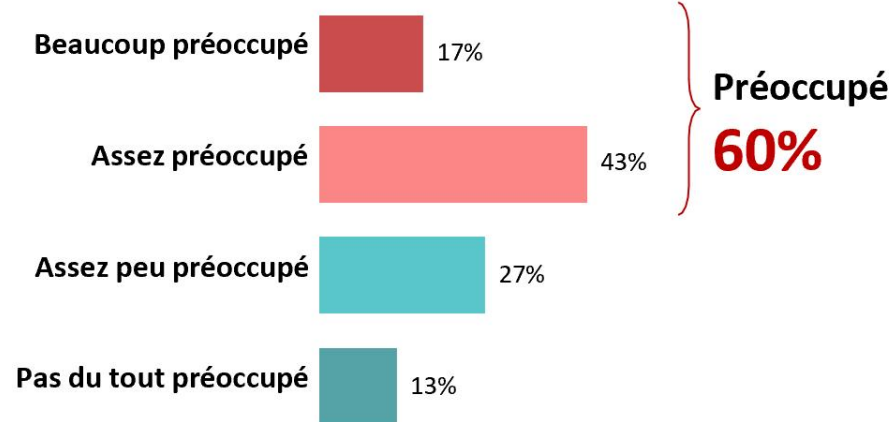
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1. French people face the loss of autonomy

Today, would you say that the possibility of an age-related loss of autonomy for one of your close relations, spouse or parent worries you very much, quite a bit, not very much, not at all?



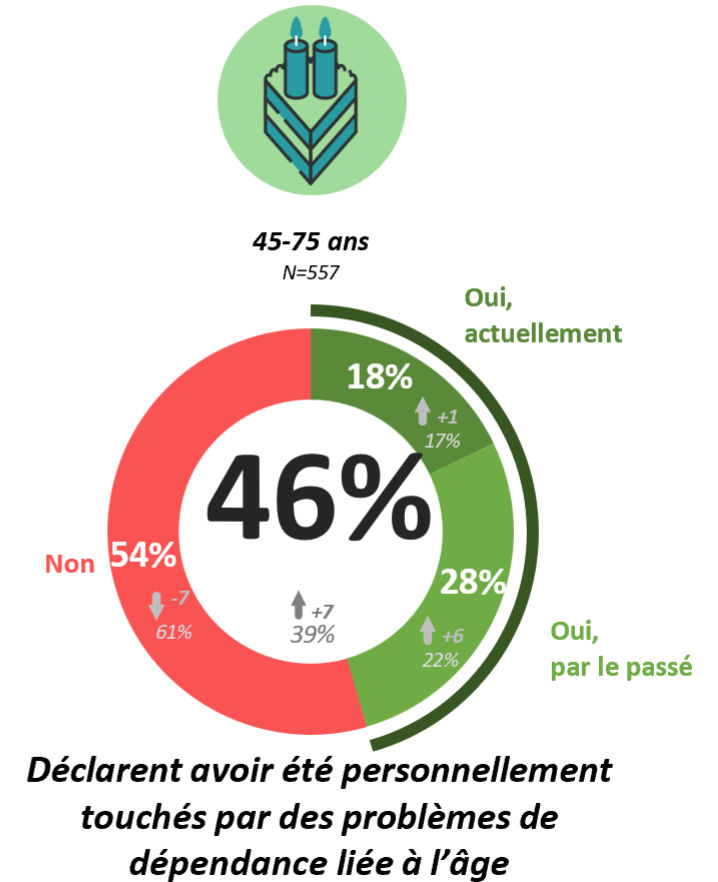
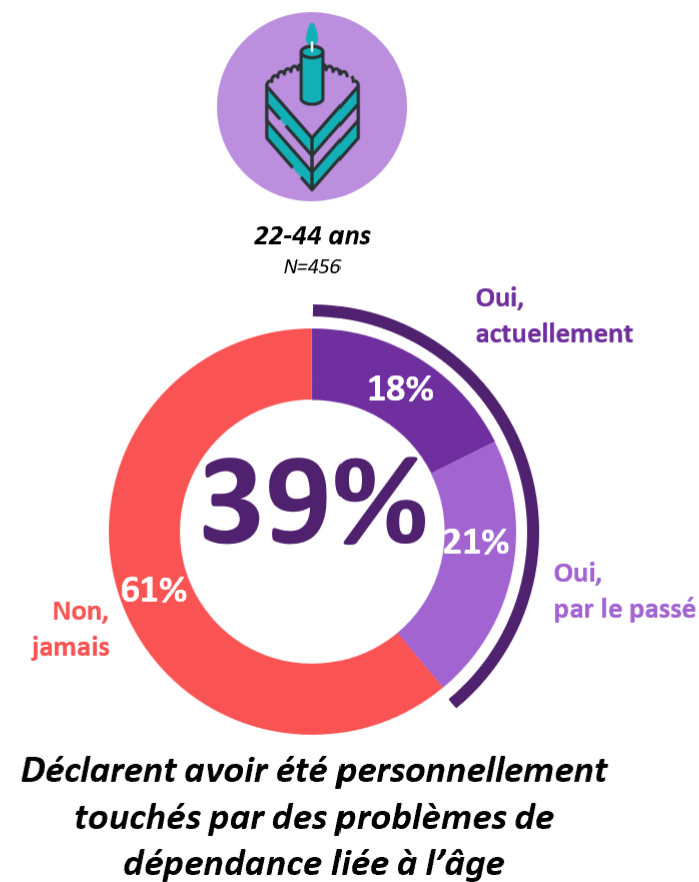
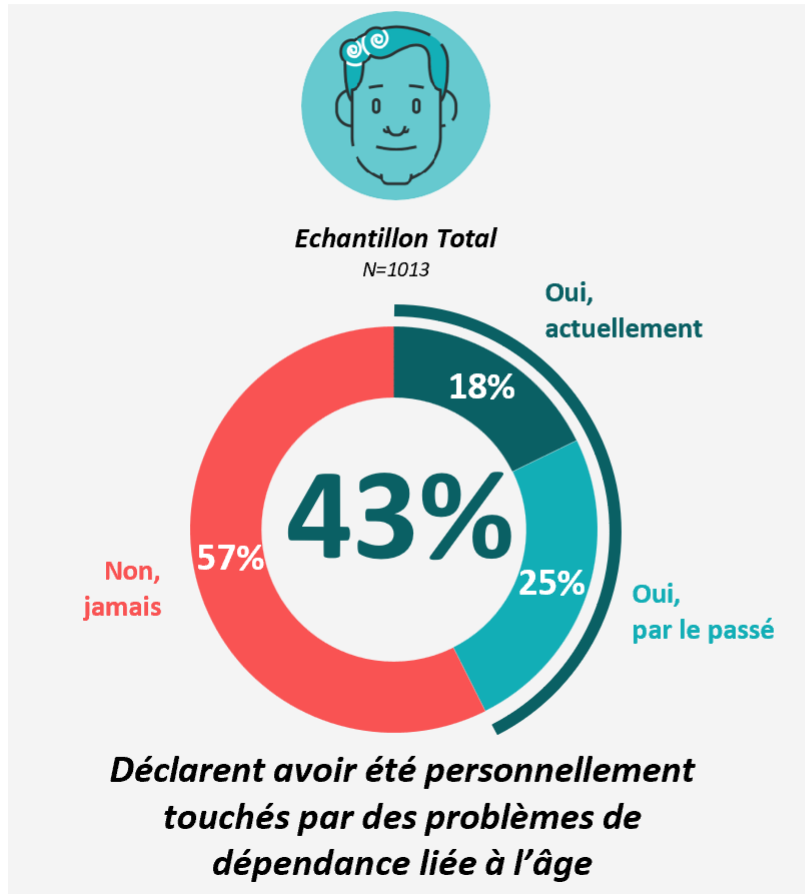
Echantillon Total
N=1013



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1. French people face the loss of autonomy

Personally, are you or have you been affected by age-related dependency problems, either for yourself or for those around you?

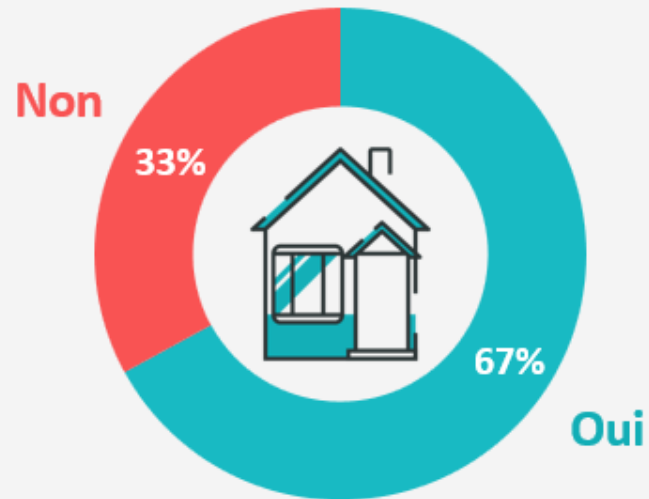


1. French people face the loss of autonomy

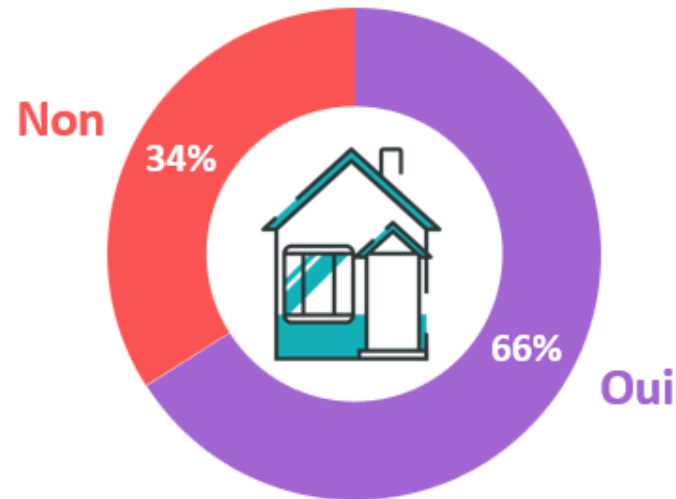
Has this had any consequences for you and your household in your daily life?



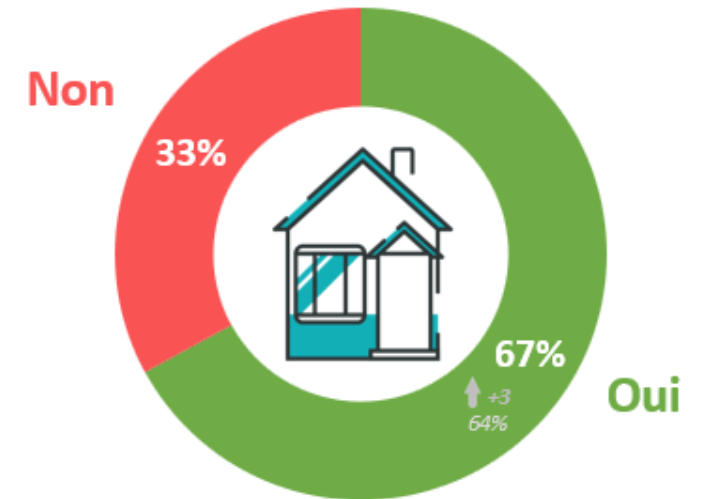
Total
N=431



22-44
N=177



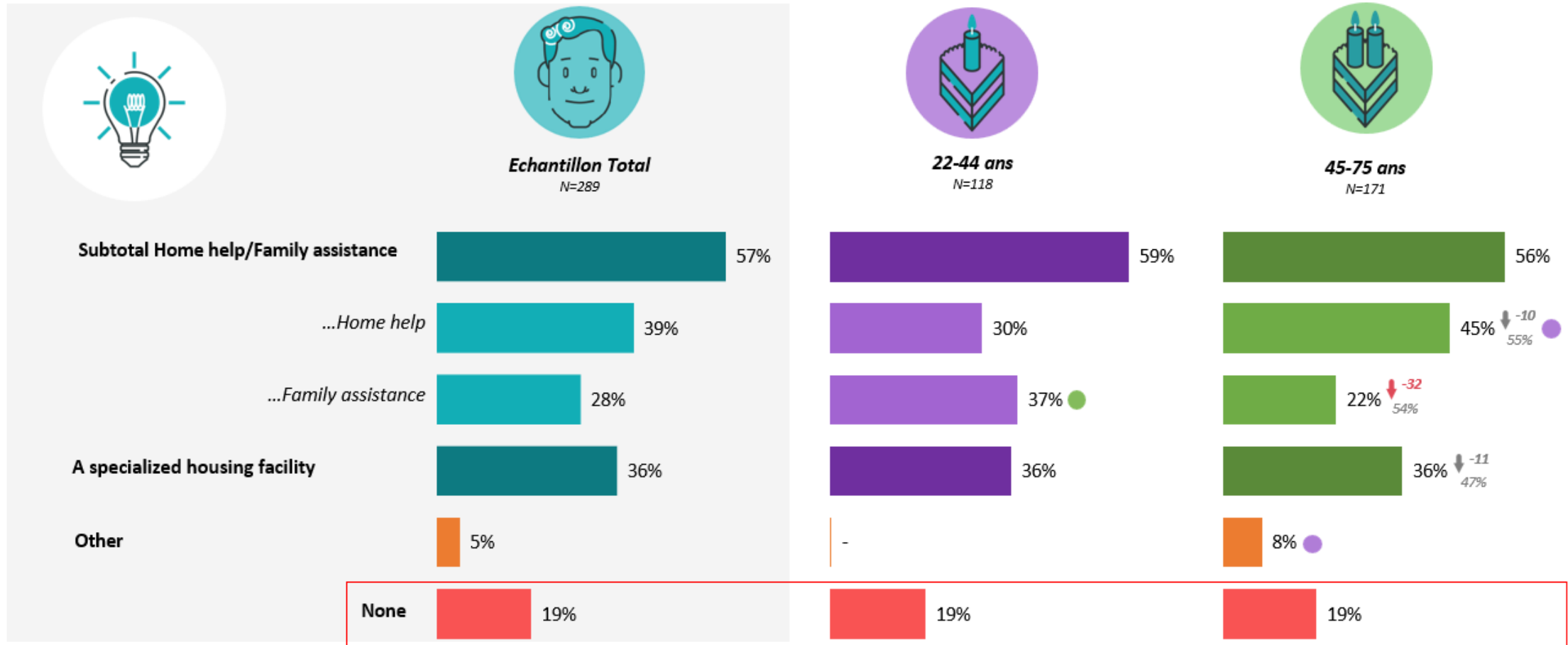
45-75
N=254



1. French people face the loss of autonomy

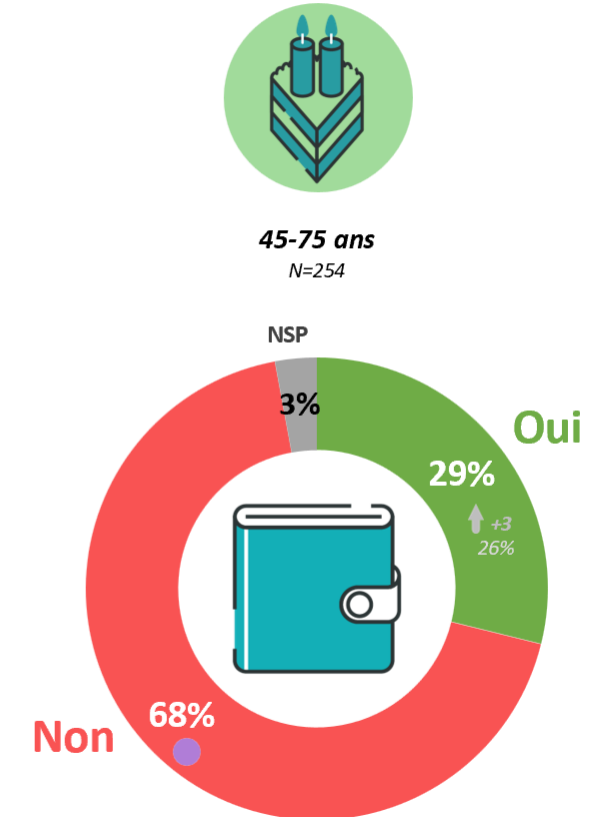
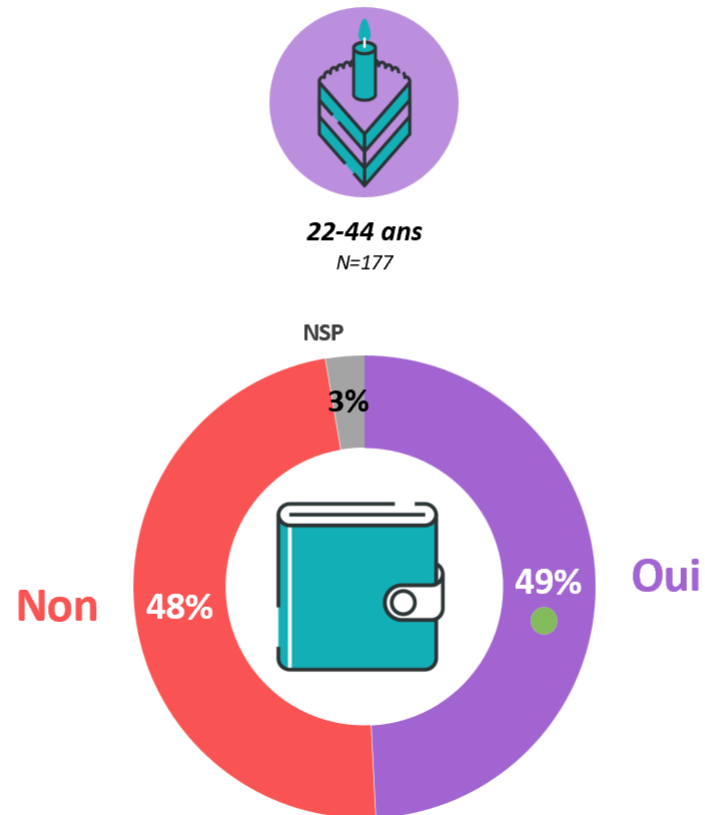
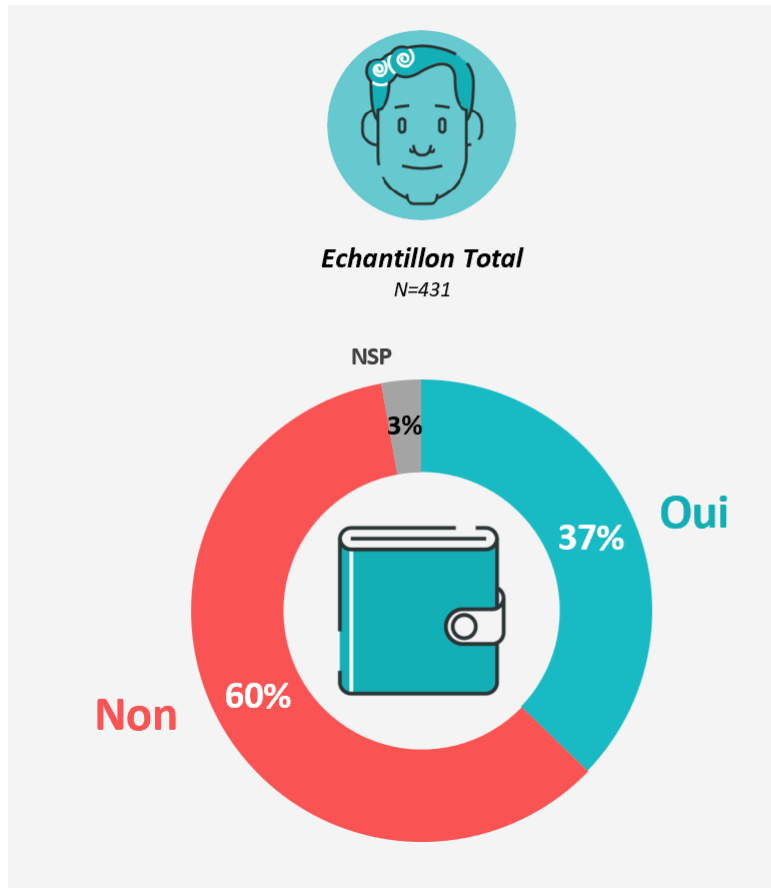


What are/were the solutions?



1. French people face the loss of autonomy

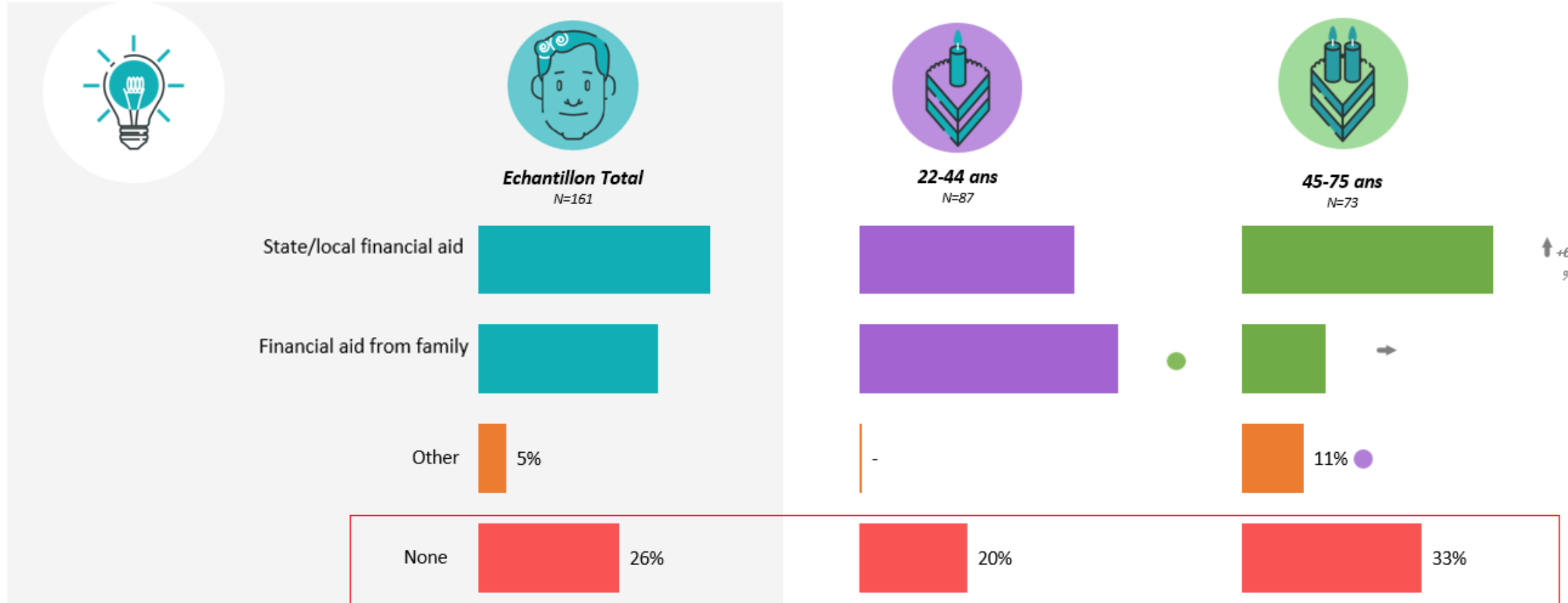
Has this had any financial consequences for you and your household?



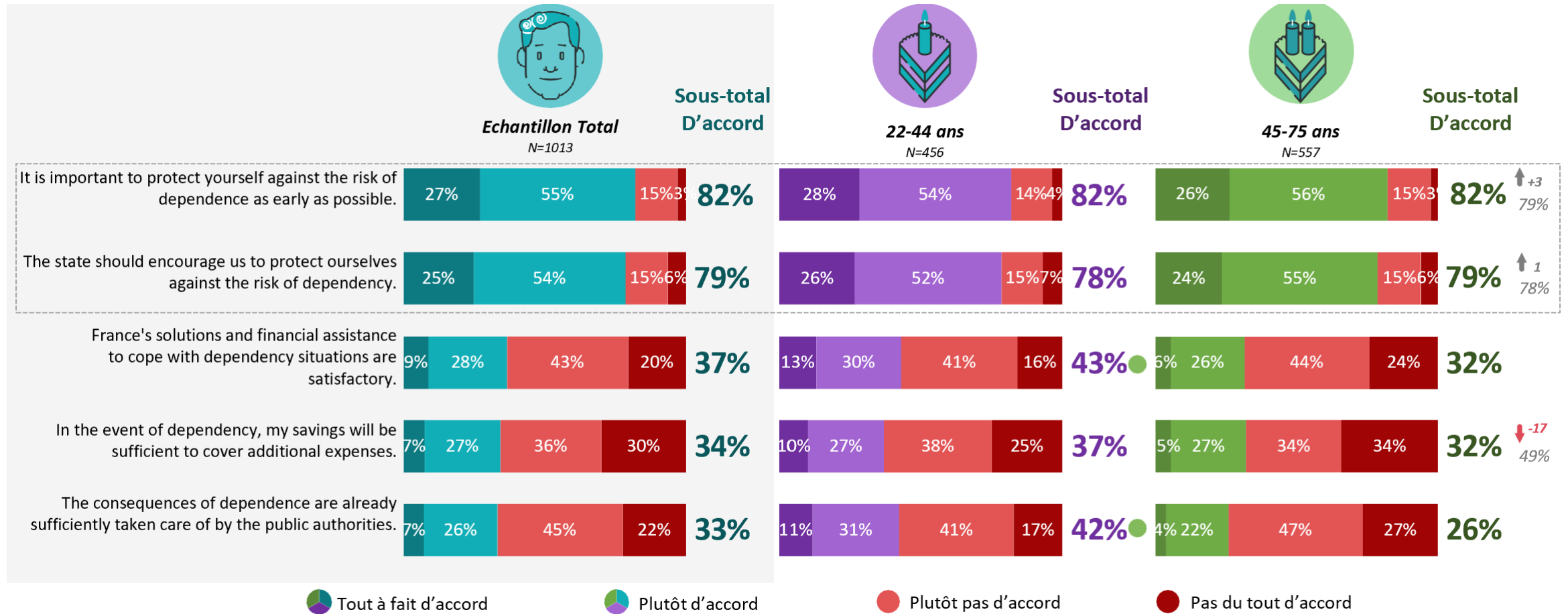
1. French people face the loss of autonomy



What are/were the solutions ?



1. French people face the loss of autonomy



XX% : rappel du score de la vague d'avril 2011

1. French people face the loss of autonomy



- ❑ In France(1), 59% of 45–75-year-olds say they are concerned about the loss of autonomy related to age for one of their family. Indeed, 46% of 45–75-year-olds have personally experienced or through their entourage, problems of loss of autonomy related to age, of which 18% are currently concerned. Loss of autonomy that generally affects the parents and grandparents of the people concerned (84%).
- ❑ In addition to impacting daily life (67%), this situation of loss of autonomy has financial repercussions (29%) for which 1 in 3 people concerned have not found help, whether from the State or from their entourage. In this context, with a loss of autonomy that they estimate will occur for the majority between the ages of 70 and 89, most believe that it would be wise to find out more about the subject from the age of 60.
- ❑ 82% of French people believe that it is important to protect themselves against the risk of loss of autonomy and 79% would be in favour of the State encouraging people to protect themselves against this risk. Information on the subject is currently considered insufficient by 68% of them, and financing the loss of autonomy of elderly people is considered an urgent and important subject by 72% of French people (78% of those aged 45 - 75).

(1) Enquête réalisée en 2021 pour France Assureurs

2. Loss of autonomy French insurance market



- ❑ Most French people are not aware of the existence of loss of autonomy insurance (only 54%, including 50% of 45–75-years-old), and only 10% have taken out one (8% of 45–75-years-old). However, more than one in 2 French people have a good image of loss of autonomy insurance (57%). The bad image is linked to a feeling of lack of clarity in contracts, limited compensations (claims) or little utility.
- ❑ One in 10 French people have taken out a loss of autonomy insurance contract. One in two contracts are taken out for themselves only. When taken out for themselves, loss of autonomy insurance contracts concern both heavy and light losses of autonomy, but more so heavy loss of autonomy when it concerns a member of family.
- ❑ With an annuity generally less than €500/month, these contracts provide loss of autonomy assistance mainly allowing you to benefit from medical and services support (13%), personal support (12%), or home support (14%). French people have difficulty to estimate the cost of keeping a dependent person at home (25% do not know) or in a nursing home (19%).
- ❑ A majority (52%) would like loss of autonomy insurance to become mandatory (57% in favor for 22–44-years-old and 48% in favor for 45–75-years-old).

2. Loss of autonomy French insurance market



Loss of autonomy insurance lacking awareness

At the end of 2023, 6.4 million people were insured against the loss of autonomy risk. Contributions amounted to €796 million, including €560 million (-3.9% over one year) for insurance companies' main and sole loss of autonomy guarantee contracts with:

- ❑ An average annual contribution of €389
- ❑ An average subscription age of 63
- ❑ A number of new business of 26,177 people (-15.7% over one year)

In 2023, the benefits paid, and provisions set aside for insurance companies' main and sole loss of autonomy guarantee contracts are:

- ❑ Benefits paid of €306.9 million
- ❑ 43,800 annuities in service with an average monthly annuity of €549
- ❑ Provisions set aside as of December 31 of €6.1 billion, including €4.7 billion for the provision for increasing risk

3. CCSF recommendation - solidarity contract against loss of autonomy



The Financial Sector Advisory Committee (CCSF), which is a public consultation body representing all civil society, began a discussion in 2023 on insurance contracts against loss of autonomy, examining feedback (via the Insurance Mediator) on the difficulties that these contracts can generate.

The CCSF noted that these contracts are rarely and late taken out, which does not allow for risk (and therefore costs) to be pooled or for sufficient coverage to be offered to meet the expectations of concerned policyholders.

The CCSF has broadened its consultations on the financing needs for loss of autonomy and has sought concrete solutions to reduce the remaining cost for households.

The average age at which total loss of autonomy occurs is around 78 years for men and 84 years for women. For heavily dependent people, i.e. with a total loss of autonomy (GIR 1 or GIR 2 according to the public scale), the average duration of receiving the loss of autonomy allowance is 3 years. The remaining cost – what is not covered by the allowance or by the aid intended for these people in institutions – is around €1,957 per month, which often exceeds the resources of people affected by the loss of autonomy. It represents nearly 120% of the average gross pension for all schemes combined and nearly 90% of the median gross net salary.

3. CCSF recommendation - solidarity contract against loss of autonomy



At the end of its work, the CCSF recommends the generalization of insurance coverage for total loss of autonomy risk with the establishment of a financing mechanism based on 3 principles:

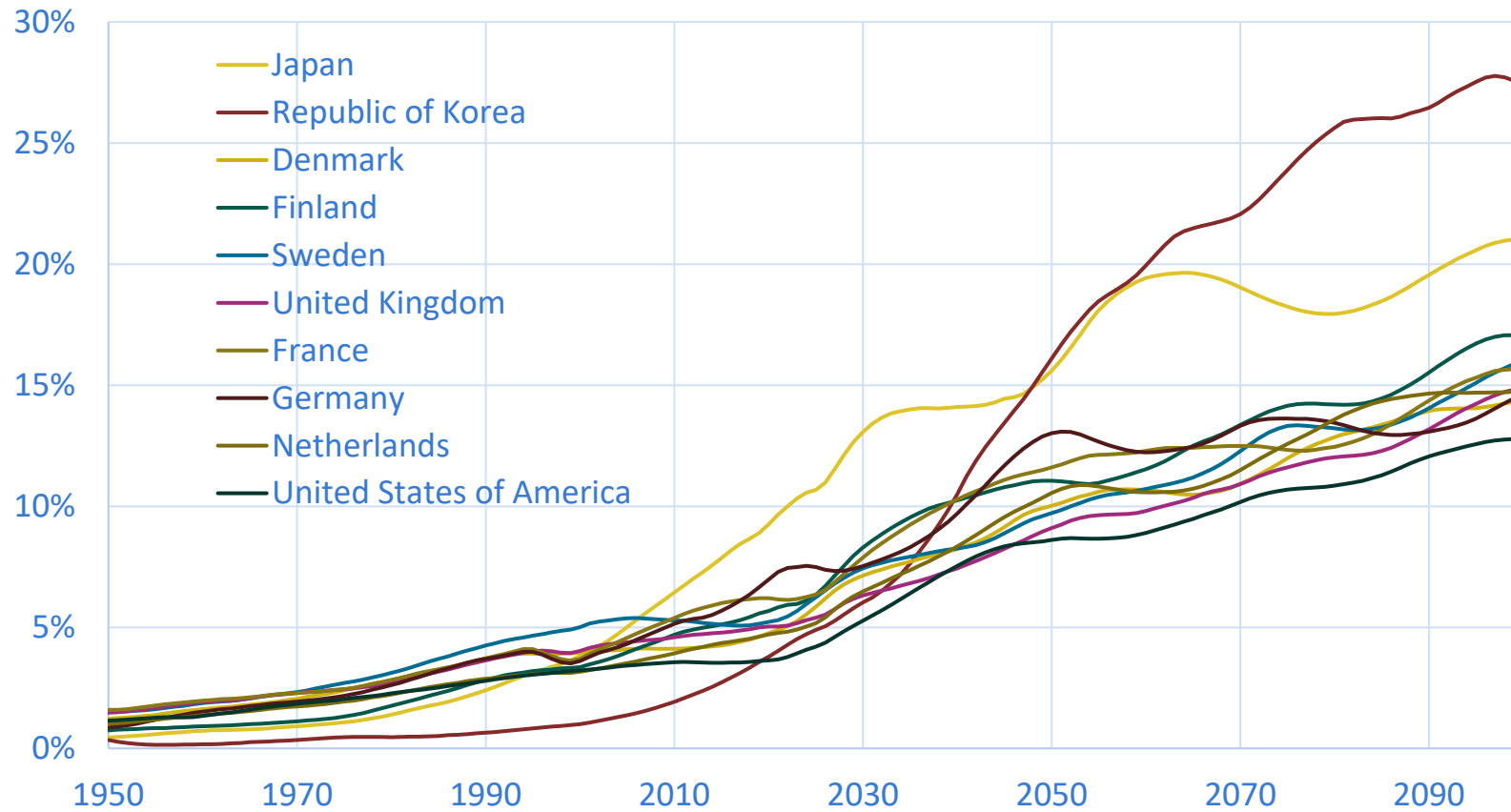
- 1) The Solidarity insurance Contract against loss of autonomy: a mandatory insurance contract, which would insure against total loss of autonomy (GIR 1 and GIR 2), in order to reduce the remaining cost for policyholder;
- 2) Long-term risk management via a risk-bearing pool and collegiate governance: a body composed of social partners, representatives of associations, representatives of insurers and public authorities, in charge of the implementation and supervision of this insurance contract;
- 3) The same guarantees for all, with a single, transparent price list (grid) that applies throughout life; with simplified implementation aligned with the loss of autonomy allowance (social benefit set up by the public authorities in the event of loss of autonomy);

The CCSF specifies that the implementation of this contract does not prejudice the resources that Social Security will be able to mobilize in the future and in no way prevents the State from taking charge of the financing of dependency.

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I. The demographic weight of the over-80s



- ❑ This figure illustrates the demographic weight of the over-80s population in various countries from 1950 to 2100.
- ❑ General Trends:
 - ❑ Japan: Shows a significant increase in its over-80s population, projected to reach nearly 20% by around 2075.
 - ❑ Republic of Korea: Exhibits a sharp rise starting around 2025, projected to surpass Japan by reaching approximately 27% by around 2085.
 - ❑ European Countries: Denmark, Finland, Sweden, United Kingdom, France, Germany, and Netherlands show a steady increase with projections reaching between approximately 10% to just above 15%.
 - ❑ United States of America: Displays an increasing trend but at a slower rate compared to other countries. This trend may also reflect lower life expectancy due to greater inequality.
- ❑ Detailed Insights:
 - ❑ Japan: The demographic shift is particularly pronounced, indicating a rapidly aging population. This could have significant implications for healthcare, social services, and economic policies.
 - ❑ Republic of Korea: The sharp rise suggests a future demographic challenge similar to Japan, potentially requiring substantial adjustments in policy and infrastructure.
 - ❑ European Countries: The steady increase reflects a gradual aging trend, which may be more manageable but still requires proactive planning in terms of pension systems, healthcare, and elder care.
 - ❑ United States: The slower rate of increase might indicate a more balanced demographic transition but still necessitates attention to aging-related issues.

II. Structure of the supply of goods and services and financing of needs related to loss of independence

Loss of independence : Providers of goods & services (health, care assistance, housing)	Private sector	Public sector
Formal	Private firms	Administrations
	Non-profit organisations	Public companies
Informal	Family	Regulation

- ☐ The table categorizes the supply of goods and services (health, care assistance, housing) into formal and informal sectors within both private and public sectors.
- ☐ Private Sector
 - ☐ Formal
 - ☐ Private Firms: These entities provide goods and services in a structured and regulated manner. Examples include private hospitals, home care companies, and housing organizations.
 - ☐ Non-Profit Organizations: These organizations offer similar services to private firms but without the profit motive. Examples include NGOs, charitable associations, and foundations.
 - ☐ Informal
 - ☐ Family: Families play a crucial role in providing care and housing, often in an unpaid and unregulated manner. This includes informal care for the elderly, children, and family members with disabilities.
- ☐ Public Sector
 - ☐ Formal
 - ☐ Administrations: Public administrations provide health, social aid, and housing services in a structured and regulated manner. Examples include public hospitals, social services, and social housing.
 - ☐ Public Companies: These companies are owned and managed by the state and provide services similar to public administrations but with a corporate structure. Examples include public housing companies and healthcare enterprises.
- ☐ Analysis
 - ☐ Private vs Public Sector: The private sector, both formal and informal, plays an important role in service provision, often with greater flexibility and innovation. The public sector, on the other hand, ensures broader coverage and strict regulation, guaranteeing universal access to essential services.
 - ☐ Formal vs Informal: Formal services are regulated and structured, offering guaranteed quality and reliability. Informal services, while often essential, can vary in quality and availability, depending heavily on individual or community resources and capacities.
- ☐ Implications
 - ☐ Public Policies: Governments need to balance investments between formal and informal sectors to ensure comprehensive and equitable service coverage.
 - ☐ Family Support: Recognizing and supporting the crucial role of families in providing informal care is essential to strengthen health and social aid systems.

II. Structure of the supply of goods and services and financing of needs related to loss of independence

<u>Loss of independence :</u> Financing	Households	Public support
Formal	Retirement pension / Individual Savings / Private Long-Term Care Insurance	Social benefits (including public LTC insurance) / Tax reductions / Direct funding of free public service / Financial support (i.e. tax reduction) of charities
Informal	Unpaid time spent by family caregivers / Financial transfers into the family	Recognizing and supporting the role of family caregivers

- ☐ The table categorizes the financing options for loss of independence into formal and informal methods, further dividing them between households and public support.
- ☐ Households
 - ☐ Formal
 - ☐ Retirement Pension: Provides regular income to individuals after retirement, helping them manage their expenses and maintain independence.
 - ☐ Individual Savings: Personal savings accumulated over time, which can be used to cover costs related to loss of independence.
 - ☐ Private Long-term Care Insurance: Insurance policies specifically designed to cover the costs of long-term care services, such as nursing homes or home care.
 - ☐ Informal
 - ☐ Unpaid Time Spent by Family Caregivers: Family members often provide care without financial compensation, which can be a significant but unrecognized contribution to managing loss of independence.
 - ☐ Financial Transfers into the Family: Monetary support provided by family members to help cover expenses related to loss of independence.
- ☐ Public Support
 - ☐ Formal
 - ☐ Social Benefits: Government-provided financial assistance to individuals who have lost independence, helping them cover living and care expenses.
 - ☐ Tax Reductions: Tax incentives provided to individuals or families to reduce the financial burden associated with loss of independence.
 - ☐ Direct Funding of Free Public Services: Government-funded services that are provided free of charge to individuals who have lost independence, such as healthcare and social services.
 - ☐ Financial Support of Charities: Charitable organizations may receive (direct or indirect) financial support from the government, which they use to provide services and assistance to individuals who have lost independence.
 - ☐ Informal
 - ☐ Recognizing and supporting the role of family caregivers
- ☐ Analysis
 - ☐ Households vs Public Support: Both households and public support play crucial roles in financing the loss of independence. Households often rely on a mix of formal savings and pensions, as well as informal support from family members. Public support provides essential social benefits and services, which can significantly alleviate the financial burden.
 - ☐ Formal vs Informal: Formal financing methods are structured and regulated, offering predictable and reliable support. Informal methods, while often essential, can vary in availability and reliability, depending heavily on individual or family circumstances.

III. What typology can be used to characterize and compare financing systems?

- ☐ Joshua (2017) distinguishes between three modes of financing:
 - ☐ Social insurance: benefits allocated according to specific criteria, financed by contributions, implicit redistribution since contributions are proportional to income, which is not the case for benefits.
 - ☐ Tax system: financed by taxation
 - ☐ Private insurance
- ☐ She identifies four types of systems:
 - ☐ (I) Social insurance: Netherlands, Germany, Japan, and South Korea
 - ☐ (II) Universal system: Denmark, Finland, and Sweden
 - ☐ (III) System with means testing: UK and US
 - ☐ (IV) Hybrid system: a mix of universal and means-tested (France)

III. What typology can be used to characterize and compare financing systems?

☐ (I) Social insurance

- ☐ Netherlands: 1968 law covering exceptional medical expenses (Algemene Wet Bijzondere Ziektekosten, AWBZ), with home or institutional care costs covered by health insurance until a recent separation. The AWBZ was replaced by the WLZ (Wet Langdurige Zorg), a new law on care for independent living (2015) = Aim to control costs.
- ☐ Germany: The 1994 Act establishes compulsory LTC social insurance and private insurance (*). (*) A group consisting mainly of civil servants, self-employed persons, and high-income earners (>\$64,350 per year in 2022) can choose between public and private insurance.

III. What typology can be used to characterize and compare financing systems?

☐ (I) Social insurance

- ☐ Japan: Laws passed in 1997 and 1999 led to the creation of a specific social insurance scheme. The public insurer is the municipality. For those over 65, premiums are deducted from pensions but depend on income and may be subsidized by the government.
- ☐ Republic of Korea: introduction of specific social insurance in 2008. Financed by contributions paid by all members of the public health insurance system + general budget allocation + financing by local authorities of contributions for social assistance beneficiaries.

III. What typology can be used to characterize and compare financing systems?

- ❑ (II) Universal system : Universality = offering a free “LTC” system to respond to everyone's needs, regardless of financial circumstances.
 - ❑ Denmark: delegation to municipalities, which collect taxes and finance needs using a universal allocation method
 - ❑ Finland: “The long-term care (LTC) system in Finland is characterised by a universal public LTC system with needs-based access to publicly organised services. The need for services is evaluated through an assessment with the client, their close relations and one or more professionals. The new wellbeing service counties are responsible for organising LTC and are the main providers, although some services are outsourced from private provider” (Forma & Leinonen, 2024)
 - ❑ Sweden: “comprehensive, publicly financed and high-quality services are available to all citizens according to need rather than ability to pay. Therefore, no means-testing criteria are applied to the provision of care” + “. The municipalities have the legal obligation and autonomy to provide services which fulfil the social, nursing and housing needs of older persons. Municipalities also have the right to levy and collect taxes.” (Lorenzoni, 2021)

III. What typology can be used to characterize and compare financing systems?

☐ (III) System with means testing:

- ☐ United Kingdom: in the 1980s, transition from a free system to a means-tested system (for the social component of LTC, but remains free for the health component). The 2014 Act establishes the eligibility rules that apply to local authorities responsible for funding.
- ☐ United States: combination of Medicare (public health insurance for everyone over 65) and Medicaid (income-based public health insurance for the poorest).

III. What typology can be used to characterize and compare financing systems?

❑ (IV) Hybrid system:

- ❑ France : Solidarity allowance for dependent persons (PSD) introduced in 1997 and transformed into the Personalized Autonomy Allowance (APA) (degressive reimbursement of care expenses based on income) in 2002 + creation in 2004 of the National Solidarity Fund for Autonomy (CNSA). Funded by various national contributions and the budgets of the local authorities (“départements”) responsible for paying them + creation of a “5th branch” (after health, family, retirement in 1945, unemployment in 1958) since 2020, which would tend to include the CNSA as a branch of Social Security.

IV. Long-term care financing: international comparison (percentage of the LTC expenditure)

Formal Long-Term Care financing

Countries	Social insurance	Households: out-of-the pocket	LTC Private Insurance	Charities
Canada	78	18	3	
Denmark	90	10	0	
England	74	26	0	
Germany	70	24	6	
Italy	75	25	<1	
Japan	92	8	0	
Netherlands	94	6	0	
Singapore	51	40	0	9
Spain	79	21	0	
US	71	19	10	
Note: Regardless of the recipient's age (including those under 60)				
Source: Gruber, McGarry & Hanzel (Eds) (2023)				

France (health, care & housing)

79

21

<1

Source: DREES
(« Compte de la dépendance », 2014)

References

Forma L. and Leinonen E. (2024) Long-term care system profile: Finland. Global Observatory of Long-Term Care, Care Policy & Evaluation Centre, London School of Economics and Political Science.

Gruber J., K.M. McGarry & C. Hanzel (2023), “Long-term care around the world”, NBER WP.

Joshua L. (2017), Aging and Long Term Care Systems: A Review of Finance and Governance Arrangements in Europe, North America, and Asia-Pacific, World Bank Group, Discussion paper.

Lorenzoni L. (2021), “‘Ageing in place’: how Sweden provides and pays for universal and comprehensive long-term care for older persons”, WHO, Policy Series on Long-Term Care No. 8.

Summary

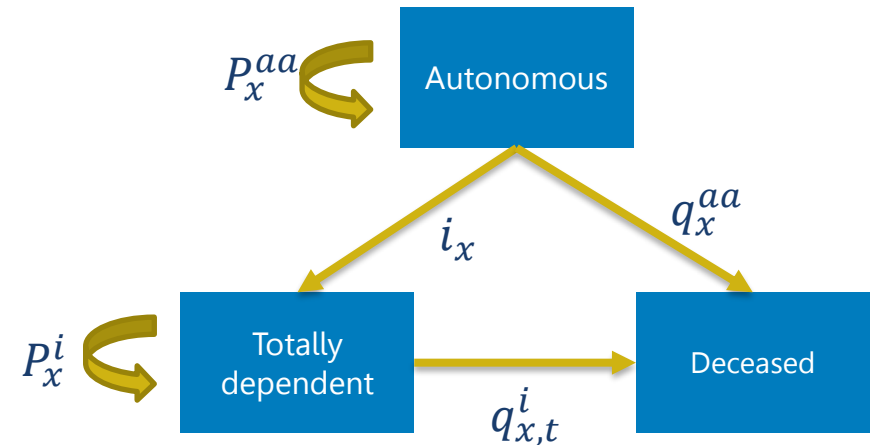
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Methodology

The scheme's balance is assessed annually by ensuring that the contributions collected each year (calculated as the product of the number of autonomous individuals and the pure annual premiums as of 2025) cover all commitments (benefits + reserves) for claims occurring in that same year.

The claims modeling is based on a three-state model:

- Autonomous (contributing)
- Totally dependent
- Deceased



Generalized coverage of loss autonomy model



Inputs

Population

- **Source** : Insee, population estimates
- Distribution of the population residing in France by age and by gender (M/F) in 2024.
- Projection of natality until 2070.

Total dependence incidence law

- **Source** : QalyDays Study – Biometric laws for the risk of loss of autonomy (AI – DAMI Chair)^(*)
- Probabilities of entering total dependence by age and gender. They increase with age

Survival laws

- **Source** : QalyDays Study – Biometric laws for the risk of loss of autonomy (AI – DAMI Chair)
- Survival laws for:
 - Autonomous individuals: Conditional probabilities of death by age and year of occurrence.
 - Individuals in total dependence: Conditional probabilities of death by age at entry and according to seniority (in months).

(^{*}): The QalyDays study was conducted based on individuals with **total dependence** (GIR 1&2) in hospitalization. (Source: National Hospitalization Databases (PMSI) in France 2008 – 2013)

Generalized coverage of loss autonomy model



Assumptions



Population :

- Withdrawal of the stock of dependent GIR 1&2 individuals receiving the APA not included in the population in 2024
- Consideration of birth rates over the next 46 years (2025 – 2070)



Technical Rate Life: 0%



Âge :

- Start of contributions: 20 years (**no age limit for subscription**)
- Minimum age for entering dependency: 60 years
- Maximum age of individuals in the portfolio: 106 years



Pure premiums and coverage :

All individuals are covered under the same guarantee, and the premiums used are those set by the CCSF (Comité Consultatif du Secteur Financier).



Calculation of reserves :

- Payment of annuities at the end of the term.

■ Pure premiums CCSF (*)

Minimum age for souscription	Monthly annuity		
	300 €	400 €	500 €
22 - 41 years old	5,7	7,6	9,5
42 - 51 years old	8,2	10,9	13,7
52 - 61 years old	10,5	14	17,6
More than 61 years old	14,6	19,4	24,2

(*) : Monthly contributions (excluding taxes, including fees) based on the minimum subscription age for dependency coverage

- ✓ For all individuals entering coverage at the same age, the rate will **be identical**

Generalized coverage of loss autonomy model



Results

- The table represents the number of contributors and dependents by year of occurrence, as well as the statistics performed on these groups. The numbers are expressed in thousands.

Year of occurrence	Contributors including the new affiliations BOY	News affiliations BOY	Average age of contributors BOY	Number of contributors death EOY	Dependents EOY	Average age of dependent EOY	Average duration in total dependence (in months)
2025	51 958	-	50,6	378	208	83,5	43,50
2026	52 195	823	50,8	385	216	83,7	43,13
2027	52 438	843	50,9	391	223	83,8	42,83
2028	52 695	871	51,0	397	231	83,9	42,58
2029	52 931	864	51,2	403	238	84,0	42,34
2030	53 162	872	51,3	408	246	84,1	42,09
2031	53 371	864	51,4	413	254	84,1	41,81
...	...	...	...	...	...	...	...
2063	51 736	723	53,7	437	393	86,8	33,40
2064	51 628	722	53,7	438	393	86,8	33,34
2065	51 517	720	53,7	439	393	86,8	33,30
2066	51 402	717	53,7	439	393	86,9	33,26
2067	51 284	714	53,7	439	392	86,9	33,23
2068	51 162	709	53,7	439	392	86,9	33,21
...	...	...	...	...	...	...	...
2088	48 214	655	53,9	422	372	86,7	33,83
2089	48 075	656	53,9	422	373	86,7	33,85
2090	47 938	657	53,9	421	373	86,7	33,83
2091	47 801	658	53,9	421	374	86,7	33,77

Generalized coverage of loss autonomy model



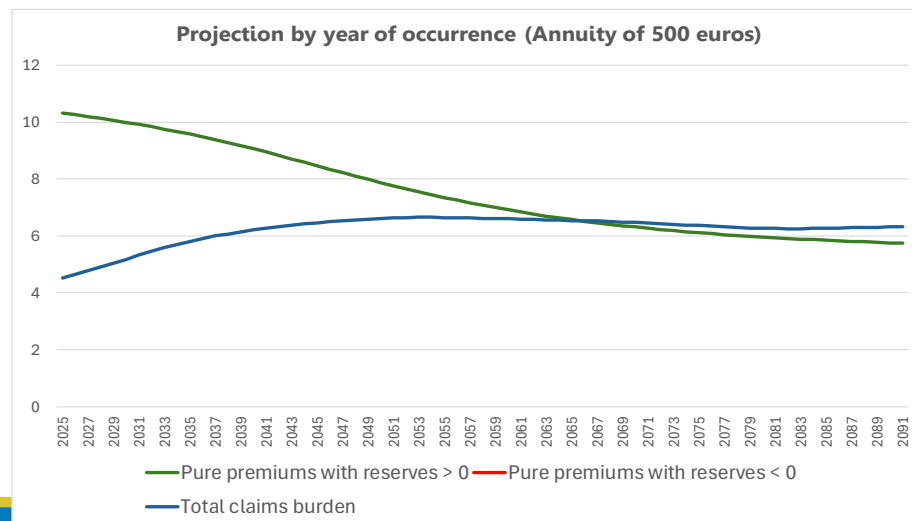
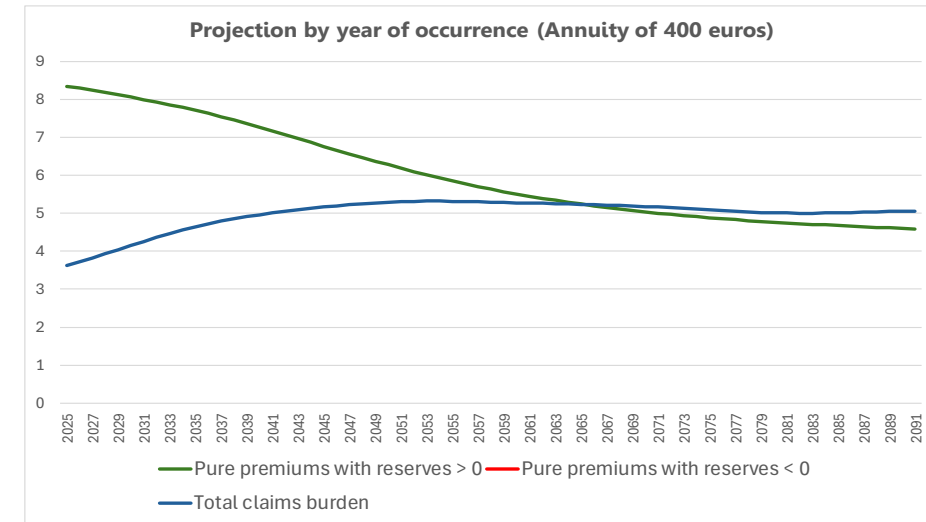
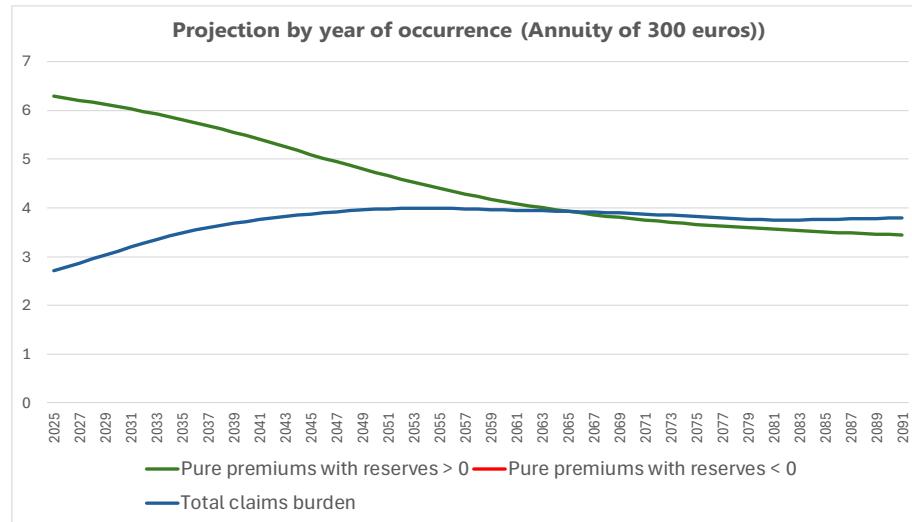
Results

- The table represents the premiums and claims expenses by year of occurrence. The amounts are expressed in billions of euros.

Year of occurrence	Annuity of 300 euros			Annuity of 400 euros			Annuity of 500 euros		
	Premiums	Claims	Premiums - Claims	Premiums	Claims	Premiums - Claims	Premiums	Claims	Premiums - Claims
2025	6,29	2,71	3,58	8,35	3,62	4,73	10,32	4,52	5,79
2026	6,25	2,79	3,46	8,30	3,72	4,58	10,25	4,65	5,60
2027	6,21	2,87	3,34	8,24	3,82	4,42	10,19	4,78	5,41
2028	6,16	2,95	3,22	8,18	3,93	4,25	10,12	4,91	5,21
2029	6,12	3,03	3,09	8,12	4,04	4,09	10,06	5,05	5,01
2030	6,07	3,11	2,96	8,06	4,15	3,92	9,99	5,18	4,80
2031	6,02	3,19	2,83	8,00	4,25	3,74	9,91	5,32	4,59
...	...	...	...	...	...	...	...	...	...
2063	4,00	3,94	0,06	5,34	5,25	0,09	6,70	6,56	0,13
2064	3,96	3,93	0,03	5,29	5,24	0,05	6,64	6,55	0,08
2065	3,93	3,92	0,00	5,24	5,23	0,01	6,57	6,54	0,03
2066	3,89	3,92	-0,02	5,20	5,22	-0,03	6,52	6,53	-0,01
2067	3,86	3,91	-0,05	5,15	5,21	-0,06	6,46	6,52	-0,06
2068	3,83	3,90	-0,07	5,11	5,20	-0,09	6,41	6,51	-0,10
...	...	...	...	...	...	...	...	...	...
2088	3,47	3,78	-0,30	4,63	5,04	-0,41	5,79	6,30	-0,51
2089	3,46	3,78	-0,32	4,62	5,04	-0,43	5,77	6,31	-0,53
2090	3,45	3,79	-0,33	4,60	5,05	-0,45	5,75	6,31	-0,56
2091	3,44	3,79	-0,34	4,59	5,05	-0,46	5,74	6,31	-0,57
	53,62			70,71			87,77		

Generalized coverage of loss autonomy model

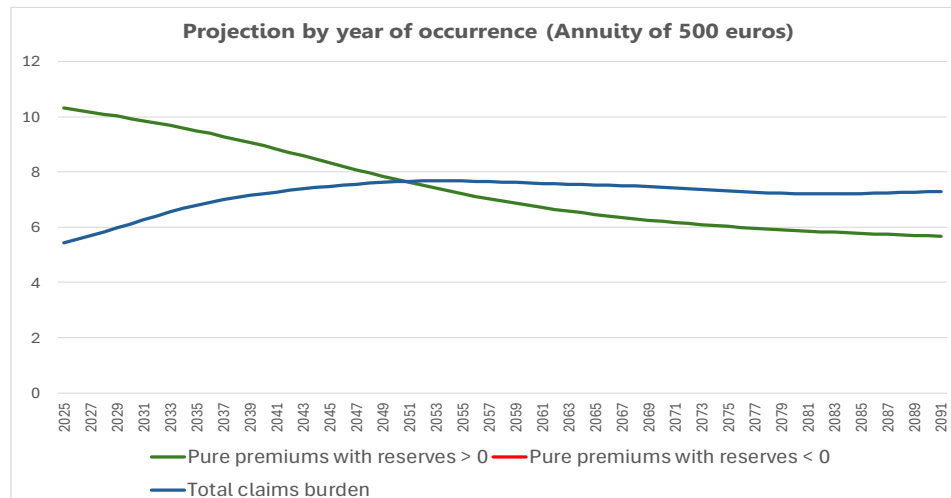
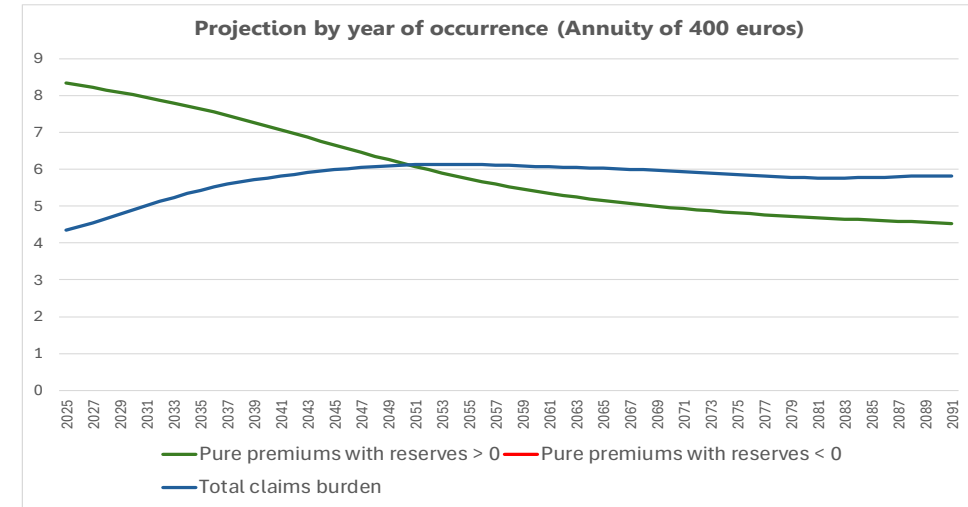
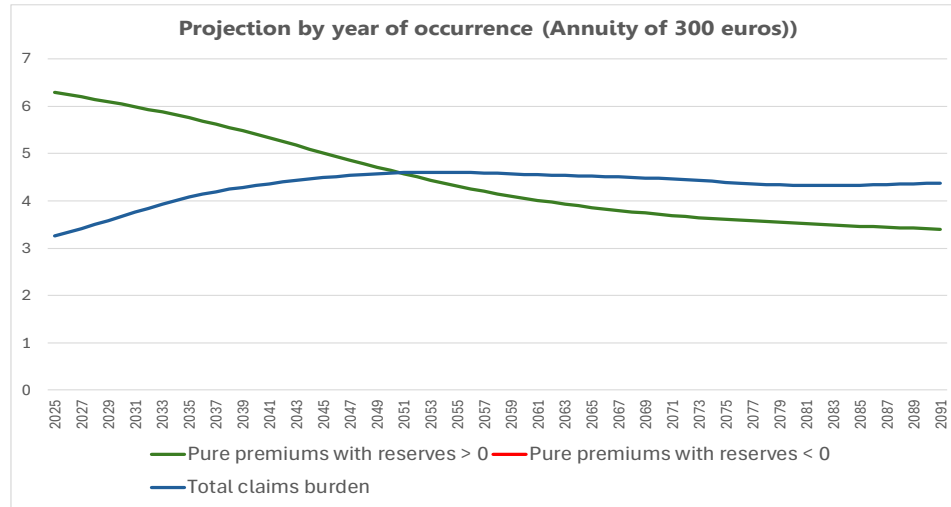
Results



During the first 40 years, contributions fully cover the commitments for each insurance year. Beyond this period, the claims burden exceeds the volume of contributions received. However, the level of reserves allows for absorbing this deficit over the entire horizon.

Generalized coverage of loss autonomy model

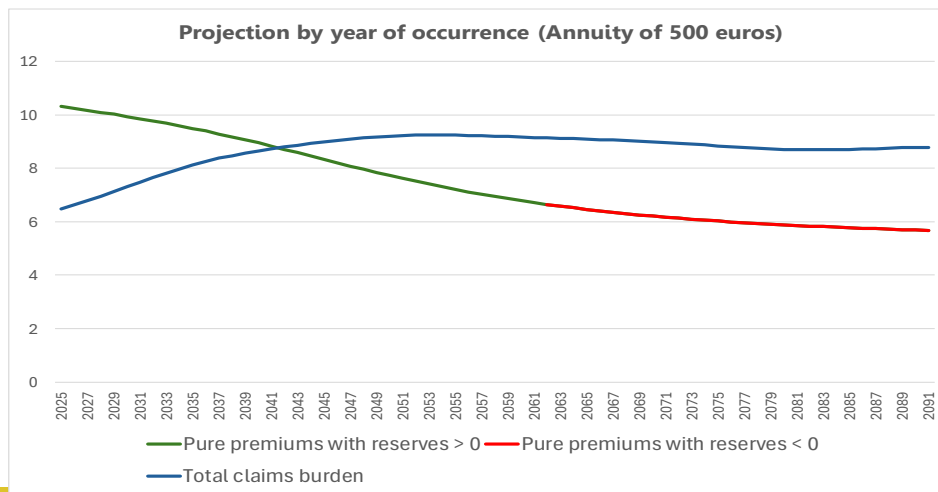
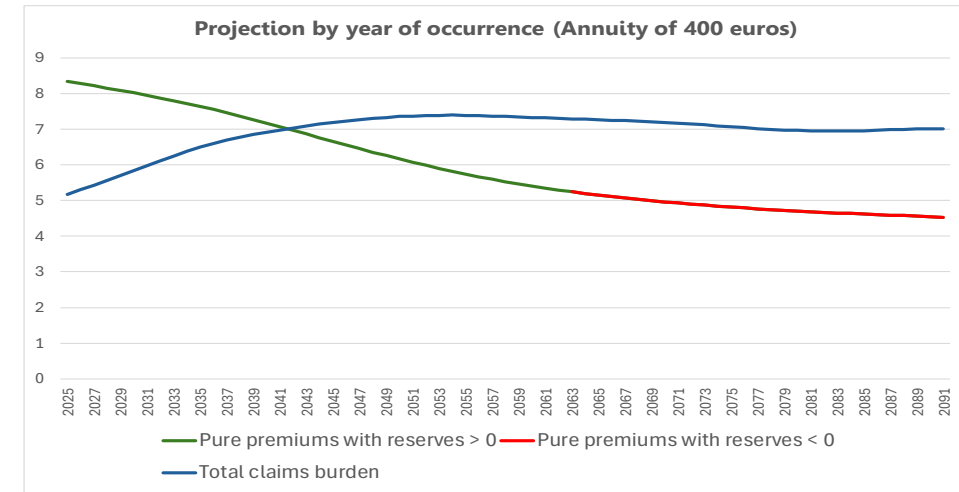
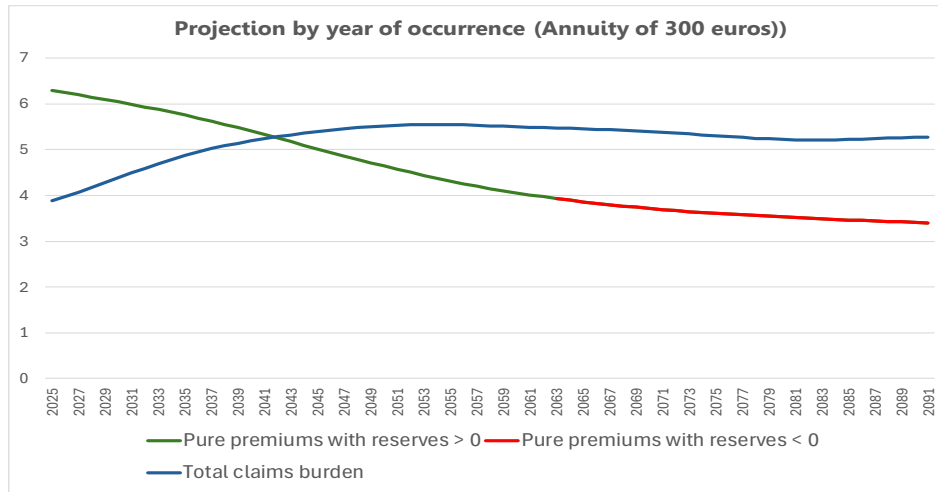
Sensitivity on incidence rates



By **increasing incidence rates by 20%**, contributions fully cover the commitments for each insurance year during the first 25 years. Beyond this period, the claims burden exceeds the contributions received, but the level of reserves remains sufficient to absorb this deficit over the entire horizon.

Generalized coverage of loss autonomy model

Sensitivity on incidence rates and survival laws in total dependence



By increasing incidence rates by 20% and reducing total dependence exit rates by 15%, contributions cover the claims burden for the first 37 years of occurrence. Thereafter, the claims burden exceeds the contributions received. Furthermore, beyond 2063, reserves are depleted, leading to an imbalance in the system for future years.

Questions?

Thank you ! Merci !

Contacts

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