The Likely Effects of Employer-Mandated Complementary Health Insurance on Health Coverage in France

Aurélie Pierre, Florence Jusot

IRDES

Document de travail
Working paper

The Likely Effects of Employer-Mandated Complementary Health Insurance on Health Coverage in France

Aurélie Pierre (Irdes, CESP Inserm)

Florence Jusot (Université Paris-Dauphine, PSL Research University, Leda-Legos & Irdes)

DT n° 67bis

January 2017

Institut de recherche et documentation en économie de la santé

Irdes - 117bis, rue Manin - 75019 Paris - Tél. : 01 53 93 43 00 - www.irdes.fr

La collection des documents de travail de l'Irdes est un support de diffusion de prépublications scientifiques. Cette collection a pour vocation de stimuler la réflexion et la discussion en matière d'analyse et de méthode économiques appliquées aux champs de la santé, de la protection sociale ainsi que dans le domaine de l'évaluation des politiques publiques. Les points de vue exprimés dans les documents de travail ne reflètent que ceux de leurs auteurs. Les lecteurs des Documents de travail sont encouragés à contacter les auteurs pour leur faire part de leurs commentaires, critiques et suggestions.

* * *

IRDES Working Papers collection is established as a means of ensuring quick dissemination of research results and prepublished versions of scientific articles. The papers aim to stimulate reflection and discussion with regard to analysis and methods applied in health economics and public policy assessment. The work presented in IRDES Working papers collection may not always represent the final results and sometimes should be treated as work in progress. The opinions expressed are uniquely those of the authors and should not be interpreted as representing the collective views of IRDES or its research funders. Readers are encouraged to email authors with comments, critics and suggestions.

IRDES
INSTITUT DE RECHERCHE ET DOCUMENTATION EN ÉCONOMIE DE LA SANTÉ
117bis, rue Manin 75019 Paris • Tél. : 01 53 93 43 06 •
www.irdes.fr • E-mail : publications@irdes.fr

• **Directeur de publication/*Director of publication*** Denis Raynaud
• **Secrétariat général d'édition/*Publisher*** Anne Evans
• **Maquettiste/*Lay-out artist*** Franck-Séverin Clérembault
• **Assistant à la mise en page/*Lay-out assistant*** Damien Le Torrec
• **Diffusion/*Diffusion*** Sandrine Béquignon, Suzanne Chriqui
• **Imprimé par/*Printed by*** Sprint Copy (Paris) • **Dépôt légal** : mars 2017
• **ISBN** : 978-2-87812-424-8 • **ISSN papier** : 2101-5902 • **ISSN électronique** : 2102-6386

The Likely Effects of Employer-Mandated Complementary Health Insurance on Health Coverage in France

Aurélie Pierre
Florence Jusot

Compared with the previous French version (DT 67), this working paper has been enriched and revised.
It has been published in the review Health Policy (2016).

Document de travail
Working paper
n°67bis, January 2017

Acknowledgements

The authors thank Thomas Buchmueller for his very helpful comments and suggestions. They are also grateful to Mathieu Cousineau, Mireille Elbaum, Pierre-Yves Geoffard, Jacques Pisarik, Pascal St-Amour for having discussed the paper, to Nicolas Célant for his help with the use of the data and to Anna Marek for her riding. The authors also thank the two anonymous reviewers and the participants to the 36th Journées des Économistes de la Santé Français, the 64th Annual meeting of the French economic association, the 14th Journées Louis-André Gérard Varet, the 6th International Jerusalem Conference on Health Policy, and to the EuHEA Conference 2016. Remaining errors are the authors' only. We gratefully acknowledge financial from the French Institute for Public Health Research as part as OASIS project and from the Health Chair - a joint initiative by PSL, Université Paris Dauphine, ENSAE, MGEN and Istya under the aegis of the Fondation du Risque (FDR).

Contents

Acknowledgements **2**
Abstract 5

1. Introduction **7**

2. Context **9**
2.1. CHI contracts in France 9
2.2. The employer's mandate of the ANI law 9
2.3. Employee exemptions 10

3. Method **10**
3.1. Analysis strategy 10
3.2. Data 10
3.3. Simulations and assumptions 11
3.3.1. Simulation of the CHI status 11
3.3.2. Law enforcement scenarios 11
3.3.3. Assumptions about employees' exemptions 11

4. Results **12**
4.1. Non-coverage in 2012 12
4.2. Characteristics of the targeted populations 12
4.3. The simulation of the effects of ANI on non-coverage rates 13
4.3.1. The whole expected non-coverage rate 13
4.3.2. The expected effects on inequalities in coverage under the assumption that no employee will be exempted 14
4.3.3. The likely effects of employee exemptions on inequalities in coverage 15
4.4. Who would be the winners and the losers? 15

5. Discussion **16**

6. Conclusion **17**

7. Bibliography **19**

8. Appendix **23**

The Likely Effects of Employer-Mandated Complementary Health Insurance on Health Coverage in France[a]

Aurélie Pierre[b], Florence Jusot[c]

Abstract: In France, access to health care greatly depends on having a Complementary Health Insurance coverage (CHI). Thus, the generalisation of CHI became a core factor in the national health strategy created by the government in 2013. The first measure has been to compulsorily extend employer-sponsored CHI to all private sector employees on January 1st, 2016 and improve its portability coverage for unemployed former employees for up to 12 months. Based on data from the 2012 Health, Health Care and Insurance survey, this article provides a simulation of the likely effects of this mandate on CHI coverage and related inequalities in the general population by age, health status, socio-economic characteristics and time and risk preferences. We show that the non-coverage rate that was estimated to be 5% in 2012 will drop to 4% following the generalisation of employer-sponsored CHI and to 3.7% after accounting for portability coverage. With its focus on private sector employees, the policy is likely to do little for populations that would benefit most from additional insurance coverage while expanding coverage for other populations that appear to place little value on CHI. Indeed, the mandate could reduce the relationship between non-coverage and time and risk preferences without eliminating social inequalities as the most vulnerable populations are expected to remain more often without CHI.

JEL codes: I13, D63.

Keywords: Complementary Health Insurance, Inequality, Risk aversion, Time preference, National Interprofessional Agreement, Simulation.

---

[a] Revised version, published in Health Policy (2016): http://www.sciencedirect.com/science/article/pii/S0168851016303475

[b] Institut de recherche et documentation en économie de la santé, Irdes - CESP Inserm. Corresponding author: pierre@irdes.fr

[c] Université Paris-Dauphine. florence.jusot@dauphine.fr

1. Introduction

The goal of health insurance is to protect individuals against the risk of unexpected and catastrophic health expenditures. For efficiency and equity arguments, this protection is mainly assured by public health insurance that covers higher than 70% of health expenditures in most of OECD countries, with a notable exception in the US where it only reaches 49% [1]. However, public insurance is always partial since it concerns either a limited basket of care (*e.g* in Canada where drugs are out of the public system or in Spain and in the UK where services provided by private physicians are uncovered), a limited population (as in the US where public coverage only covers old, vulnerable and poor populations) or since it lets copayments on a quite large basket of care through coinsurance rates and deductibles (as in Belgium, in France or in Switzerland). As a consequence, private health insurances exist in most countries. They can be voluntary or compulsory through individual or employer mandates and their weight in health expenditure finance increases with the financial risk let by public coverage. Thus, private health insurances constitute a mainstay of the health system in the US where they cover 35% of health expenditures mainly as primary health insurance. It is also the case in nearly every country with a universal public health insurance system, especially where there is no out-of-pocket expenditures ceiling such as in Canada and in France where private health insurances cover 13% and 14% respectively of health expenditures [1].

In France, the health insurance system is characterized by the presence of both public health insurance and Complementary Health Insurance (CHI) in the same "basket of care". Indeed, whereas public health insurance provides compulsory and universal health insurance that accounts for 77% of overall health expenditure, copayments vary according to the type of care, from 10% of regular fees for hospital care to 30% for physicians visits and 85% for some drugs. Moreover, small deductibles exist for most of care and extra fees can be particularly high for specialists, dental and optical care. Therefore out-of-pocket payments continuously increase with health care use and individuals with chronic illnesses can be faced catastrophic out-of-pocket expenditures left by the public scheme (despite the existence of a specific device called "*ALD*" which offers extra public coverage for care related to a limited number of diseases). Moreover, the French health system is characterised by the most important social inequalities in mortality in Europe [2]. This situation is partly explained by the large magnitude of inequalities in health care use (especially for specialist and preventive care) and in complementary health coverage in comparison with other European countries [3–6]. The ability of public health insurance to guarantee equitable access to care and to protect the sickest and the poorest against financial burden related to diseases has been questioned and reforms have been suggested such as the introduction of a out-of-pocket payment threshold funded on income proportional taxes [7–11]. However, due to financial constraints, policy makers have chosen to increase access to CHI rather than simply increase the comprehensiveness of the public insurance program.

Two schemes designed to facilitate access to CHI for low-income populations, the *"Universal Complementary Health Insurance" (*called *CMU-C)* and "*the Assistance in Financing Complementary Health Insurance" (*called *ACS)*, were introduced in 2000 and 2005, respectively. Another way to promote CHI has been to support employer-sponsored health insurance by introducing tax and social contribution exemptions as early as 1985. As a

result, 95% of the population benefited from CHI in 2012. However, access to CHI remains an issue for policy makers since non-coverage rate is greatly higher among the poorest [4,12–17]. This situation is partly due to the low inclusion threshold for the "*CMU-C*" device (20% below the poverty line), which only concerns 7% of the population, and the very high non take-up rate of the "*ACS*" device which offers quite low voucher amounts and still remains poorly known [18] whereas CHI premiums can reach 10% of income for the poorest households [14,16]. Moreover, the level of CHI coverage varies a lot in the population according to income and the way individuals are insured: employer sponsored-CHI coverage are on average more advantageous than contracts individually subscribed [19]. Thus, the promotion of widespread access to a quality CHI became a core factor in the National Health Strategy set out by the French government on September 23rd, 2013, alongside the overall aim of reducing social health inequalities [20]. This objective was first implemented in the National Interprofessional Agreement ("*Accord National Interprofessionnel*" called *ANI*), which mandates that all private sector employers offer partially financed compulsory CHI to all of their employees beginning on January 1st, 2016. This agreement also aimed to improve the portability of coverage for the unemployed for up to 12 months after the end of their last job [21].

The ability of mandating employers to offer health insurance to their employees in order to improve health insurance coverage and its equity can be discussed. Employer mandate allows policymakers to promote health insurance limiting public spending and the deadweight losses induced by taxation [22]. Employers can also negotiate better cost/ quality premiums. Regarding equity issue, it can be less equitable than standard public programs as it excludes individuals who are out of the labour market and therefore who may be more frequently uninsured, economically deprived and in poor health. Moreover, since CHI premiums are not progressive, it doesn't constitute an instrument of redistribution, conversely to social contribution and income taxation. Finally, the impact of such a mandate on social welfare could be discussed since it prevents employees to choose their optimal level of coverage according to their budget constraints and their preferences. Indeed, a number of theoretical and empirical studies have highlighted the role of risk preferences in the decision to be uninsured [23–30] and Marquis and Long [31] showed that implementing a mandate on primary health insurance that would require uninsured families to purchase health insurance may induce very high welfare costs, which reflect a strong preference for remaining uninsured and/or a low willingness to pay for health insurance.

Even if employer-provided health insurances exist in many countries, employer mandate is very rare. Today, only the employer mandate of Hawaï has been evaluated, the employer mandate for companies over 50 employees having just been implemented in the US is an integral part of the Affordable Care Act. Few studies have shown a positive impact of employer-mandate on health insurance coverage of full-time employees [32–34] but with a lower magnitude for part-time employees and the overall population [32,33,35]. However, the impact of employer-mandate on inequalities in coverage related to socio-economic status and need for healthcare has not been properly explored. Moreover, no studies concern a country where public health insurance is universal and employer mandate would only concern complementary or supplementary health insurance whereas due to pressure on public budgets, it is tempting for governments to set up such mandates to push some health spending from the public sector to the private sector.

This article provides a simulation of the likely effects of the ANI mandate implemented in 2016 on CHI coverage and related inequalities in the general population. It questions its capacity to generalize access to CHI, to improve coverage equity and to enable those who would like to be insured to benefit from a CHI coverage without constraining those who would prefer remaining uninsured. This work is based on data from the 2012 French Health, Health Care and Insurance survey (called "*ESPS*"), which is the latest available survey in France that provides information on insurance coverage, health status, socio-economic characteristics and time and risk preferences. This ex-ante evaluation of the ANI is the first one performed since this law has been negotiated by trade unions in counterpart of more flexibility on the labour market without any discussion concerning its impact on health insurance [21]. This study, that should be of interest for French policy makers even if it hasn't been run upon their request, completes the literature on the implication of employer-mandate on the generalisation of health insurance coverage and its equity.

2. Context

2.1. CHI contracts in France

In France, CHI contracts can be purchased either through a private sector employer, whether one's own or that of another member of the household, or individually for public sector employees, self-employed individuals and people out of employment. Before the ANI mandate, employer-provided CHI was voluntary for employers, voluntary or compulsory for employees, and sponsored by employers or not. According to the most recent public survey on "Group Complementary Social Protection", 44% of private sector employers already offered CHI to their employees in 2009; 94% of them partially financed the premiums, on average covering 56% of the cost [36]. Additionally, 89% covered spouses and children through an additional premium paid by employees.

Overall, in 2012, 34.7% of the French population benefited from private sector employer-sponsored CHI either directly (16.2%) or through a household member's employer (18.5%), 53% benefited from individual CHI coverage, and 6% benefited from the CMU-C scheme [17]. As a result, 5% of the population was not covered by a CHI contract, and 20% of them were private sector employees. Among all uninsured, 53% explained that they could not afford insurance, and 12% stated that they did not wish to be insured or did not need insurance.

2.2. The employer's mandate of the ANI law

In January 2013, the ANI was signed by the majority of trade unions with the aim of improving 'company competitiveness, employment protection and employee career paths'. In return for greater labour market flexibility, its includes two articles concerning employer-sponsored CHI. First, it mandates that all private sector employers offer compulsory CHI to their employees that will be at least half paid by the employers and respect minimum coverage requirements (full reimbursement of copayments computed on the basis of the regulated prices and some extra fees for dental and optical care). Second, it extends the maximum duration of the portability coverage from 9 months to

12 months depending on the duration of the last employment contract, which allows former employees entitled to unemployment benefits to maintain their employer-sponsored CHI. Voted into law on June 14th, 2013, the mandate for employer-sponsored CHI went into effect on January 1st, 2016 (see Franc and Pierre [21] for more details).

2.3. Employee exemptions

Several exemptions that already existed before the ANI law allow some employees to decline to subscribe to employer-provided CHI. It applies to employees who receive employer-sponsored CHI as a dependent of a member of their household, those who benefit from the public schemes, employees in short-term contracts of less than 12 months, part-time employees for whom the financial contribution to the premium would exceed 10% of their income and when both the employer-provided CHI hasn't been negotiated with trade unions and the premium isn't fully paid by the employer.

3. Method

3.1. Analysis strategy

Our analysis proceeded in four parts. First, we described the non-coverage by CHI observed in 2012, that is to say, before the implementation of the law. Descriptive statistics were used for analysing inequalities in non-coverage according to age, health status, socio-economic characteristics and time and risk preferences. A Probit model was run to highlight the main significant determinants of being uninsured. Confidence intervals at 5% were estimated using 500 bootstrapped samples. Second, we described the characteristics of the subpopulations targeted and not targeted by the law. Third, we simulated the likely effects of the ANI law on the non-coverage rate of the whole population and on inequalities in coverage. Finally, we provide a description of the individuals who would gain CHI because of the reform and of those who would continue not to have it.

3.2. Data

The 2012 Health, Health Care and Insurance Survey is a representative survey of the French population that provides data on individuals' demographics, health status, socio-economic characteristics and CHI coverage. Our sample was composed of 22,980 individuals, 5% of whom were not covered by CHI (Table A1).

Three broad dimensions were considered as CHI coverage determinants: health risks, socio-economic status, and preferences related to risk and time. In addition to demographics, health risk is approximated by self-assessed health, by reporting having at least one chronic illness, and by the benefits of the "*Affection de Longue Durée*" (*ALD*) scheme, which proposes public extra coverage for treatments related to some specific long term diseases. Socio-economic status was measured using the household income per consumption unit, employment status, a social vulnerability indicator that includes self-reported difficulties in paying rent or liabilities and/or suffering from long-term isolation during the course of life, and an indicator that targets individuals anticipating the inability to manage without some form of material support if faced with financial

difficulties. We approximated time and risk preferences though the following questions: 'In terms of your attitude regarding risk/the future, where would you place yourself on a scale from 0 to 10? As previously done in the literature [37], we consider individuals who responded 8, 9 or 10 to the first question as those with the lowest risk aversion and those who responded 0, 1 or 2 to the second question as being present-oriented.

3.3. Simulations and assumptions

3.3.1. Simulation of the CHI status

We consider that all individuals affected by the law will be insured after its implementation: the CHI status of those uninsured before the law is changed as "being insured". All other individual characteristics remain the same. We thus assume that all employers will be compliant with the law given that employer participations to payment premiums are exempted of social taxes and that the ANI agreement has been signed by representatives of both employers and employees. We also assume that income, health and employment status are exogenous with respect to the employer mandate. This latter assumption implies that the mandate will have no impact on labour supply and/or demand, which is consistent with other French researches [32,38] and relevant in France given that the cost of CHI is relatively small compared to total compensation. Moreover, a flexible labour market is required to observe changes of employees' wages, which is not the case in France where the minimum wage is one of the highest in Europe [39]. Changes could eventually be observed on wages trends after many years. Finally, even if being insured allows a better access to health care [6,40,41], potential changes on health status will take time and could not be observed in the short term.

3.3.2. Law enforcement scenarios

Three categories of individuals were identified as being affected by the law: 1) private sector employees directly affected by the employer mandate, 2) former private sector employees unemployed for fewer than twelve months directly affected by portability coverage and 3) dependents of employees and former employees potentially indirectly affected by the ANI law. Indeed, although they are not mandated to do it, most employers provide contracts today that offer the possibility to include employees' spouses and children under 26 years old who are students or economically inactive [36].

Thus, we considered three law enforcement scenarios. Scenario (1) evaluated only the impact of the generalization of employer-sponsored CHI for all private sectors employees who are the only ones to compulsorily take out CHI. Scenario (1+2) also accounted for the portability coverage of former employees. Scenario (1+2+3) also included employees' dependents.

3.3.3. Assumptions about employees' exemptions

To simulate the non-coverage rate, we firstly assume that no employee will be exempted to the employer-sponsored CHI introduced by the ANI law, ignoring the fact that employees on fixed-term employment contracts under 12 months can be exempted to subscribe to it without being covered otherwise. However, they are likely to request exemptions due to the transaction costs related to the temporary nature of their em-

ployment contracts and the fact that they can face a high employee contribution relative to their health risks. Our database provides information on the nature of employment contract but not on the length of fixed-term contract. Given that in France, fixed-term employment contracts are by the law limited to 18 months and only 21% of them have a length over one month [42], we then assume in an alternative scenario that all employees on temporary employment contracts would be exempted from the employer-sponsored CHI such that their CHI status will remain the same as observed in 2012 after the reform.

4. Results

4.1. Non-coverage in 2012

Among the whole population, the non-coverage rate was on average 5% in 2012. It was particularly high among individuals over 80 and between 18 and 30 years old (6.8% and 8%, respectively, Table A2). Nearly 10% of individuals with poor or very poor health were uninsured *versus* 4.6% of those with very good health. Consistent with previous studies [12,13,15,16,43], access to complementary health insurance is strongly related to socio-economic status. In 2012, non-coverage was more common among low-income individuals (14.1% *versus* 3.6% among the more well-off) and the socially vulnerable. Regarding employment status, 13.7% of the unemployed, 8.9% of homemakers and 11.6% of other economically inactive individuals were uninsured, compared to 3.6% of employed people. As a result, socio-economic status, and especially income, is the main dimension associated with the probability of not having CHI in 2012 (Table A3). All things being equal, the probability of being uninsured is 10.2 percentage points higher for the poorest compared to the richest and 4.1 percentage points higher for the unemployed compared to the employed. Moreover, we show for the first time in France that time and risk preferences are associated with being insured by CHI. The non-coverage rate reaches 8.1% for individuals with low risk aversion (*versus* 4.4% for the others, Table A2) and 7.3% for those with a strong preference for the present (*versus* 4.2% for the others), and these associations were significant with all other things being equal (Table A3).

4.2. Characteristics of the targeted populations

Nearly 55% of the population will be either directly or indirectly targeted sub-populations of the ANI law (Table A1). Private sector employees with open-ended contracts, the target of the generalisation of the employer-sponsored CHI without exemptions, correspond to 23.9% of the population. Those with fixed-term contracts, who can benefit from exemptions, count for 3.7%. Former private sector employees who were unemployed less than twelve months and are targeted by the extension of the portability coverage, represent only 1.6% of the population. Dependents, who could indirectly benefit from the ANI law, represent 27% of the population.

Private sector employees with open-ended contracts, the target of the generalisation of the employer-sponsored CHI without exemptions, are less often uninsured than employees with fixed-term contracts (2.4% *versus* 10.8%). The situation for unemployed individuals affected by portability coverage was particularly worrying as 16.5% of them

were without CHI in 2012. The non-coverage rate was 3.9% among potential dependents and reached 6.2% among those who were neither directly nor indirectly targeted by the law.

People affected by the law are younger and in better health status than those not affected by the law. Indeed, individuals who reported very good or good health make up 61% of private sectors employees (whatever the length of the contract), 53% of individuals unemployed less than 12 months and 58% of the potential dependents *versus* 47% of the rest of the population. Private sector employees with open-ended contracts are also richer than those with fixed contracts. Individuals with an income under 1,000€ per CU by month count for 8% of the open-ended contract population *versus* 20% of those with a fixed-term contract and make up 25% of the individuals unemployed less than 12 months and 26% of the rest of the population. Finally, individuals with lower risk aversion and those with a higher preference for the present are more often represented among private sector employees with a fixed-term contract, that is to say those who can be exempted from employer-sponsored CHI.

4.3. The simulation of the effects of ANI on non-coverage rates

4.3.1. The whole expected non-coverage rate

For the whole population, and under the assumption that no private sector employee will be exempted from the employer-sponsored CHI introduced after the mandate, results showed that the law would significantly but slightly reduce the non-coverage rate from 5% to 4% in scenario (1) and 3.7% in scenario (1+2) [Table 1]. Thus, among the individuals without coverage in 2012, 79.9% and 74.5%, respectively, will remain uninsured. Only scenario (1+2+3), which accounts for dependents, would result in a significant drop in non-coverage rates, even though 2.7% of the population and more than half of the individuals without CHI in 2012 remained uncovered after the law.

Accounting for likely exemptions by short-term employees caused an increase of 0.4 points in the non-coverage rates for the general population. The non-coverage rate would remain significantly positive among employees in the private sectors: 1.4% of

Table 1. Non-coverage rate observed in 2012 and expected after the ANI law

	Observed	Simulated, assuming no employee exemptions			Simulated, assuming that all employees in short-term contracts will be exempted		
	In 2012	S (1)	S (1+2)	S (1+2+3)	S (1)	S (1+2)	S (1+2+3)
Among the whole population	5.0 [4.7 ; 5.3]	4.0 [3.7 ; 4.3]	3.7 [3.4 ; 4.0]	2.7 [2.4 ; 2.9]	4.4 [4.1 ; 4.7]	4.1 [3.8 ; 4.4]	3.1 [2.8 ; 3.3]
Among those without CHI in 2012	100 [100 ; 100]	79.9 [77.3 ; 82.4]	74.5 [71.8 ; 77.2]	53.5 [50.4 ; 56.7]	87.9 [85.9 ; 90.0]	82.6 [80.2 ; 84.9]	61.8 [58.7 ; 64.8]
Among private employees	3.6 [3.1 ; 4.1]	0 [0 ; 0]	0 [0 ; 0]	0 [0 ; 0]	1.4 [1.1 ; 1.8]	1.4 [1.1 ; 1.8]	1.4 [1.1 ; 1.8]
Among private employees without CHI in 2012	100 [100 ; 100]	0 [0 ; 0]	0 [0 ; 0]	0 [0 ; 0]	40.1 [32.9 ; 47.3]	40.1 [32.9 ; 47.3]	40.1 [32.9 ; 47.3]

Source: ESPS, Irdes, 2012.

them would remain uninsured (*versus* 3.6% in 2012), which corresponds to 40.1% of those already uninsured in 2012.

4.3.2. The expected effects on inequalities in coverage under the assumption that no employee will be exempted

Concerning scenarios (1) and (1+2), which address the direct effects of the law, the results firstly showed that non-coverage would be significantly reduced among individuals aged 18-30 years from 8% in 2012 to 5.6% and 4.5%, respectively (Table A2). However, this population would remain, along with the older population, without CHI more often (6.8% for those over 80). The results reveal a similar evolution of the non-coverage rate among individuals in good and poor health, regardless of the health status indicator used (-1 point in each sub-population), leaving more of those with the poorest health status without CHI.

The non-coverage rate will obviously significantly decrease among the working population in scenario (1) and among the unemployed in scenario (1+2). Non-coverage will nevertheless remain relatively high among the unemployed at 9% *versus* 1.2% in the working population in scenario (1+2). There is even a strengthening in the relationship between non-coverage and retirement in scenarios (1) and (1+2) [Table A3]. This also applies to students, homemakers, and unemployed individuals even though the short-term unemployed are directly addressed in the law.

Similarly, non-coverage rate will continue to significantly decrease with income levels. Based on scenario (1+2), there would be a non-significant drop of 10% in the non-coverage rate among the poorest (from 14.1% to 12.7%) *versus* a significant drop of 56% among those with incomes between 2,001€ and 3,000€ (from 1.6% to 0.7%), the ceteris paribus association between income and non-coverage remaining quite similar after the law to that observed in 2012 (Table A3). Those results indicate that the mandate is susceptible to increase income-related inequalities in CHI coverage.

Furthermore, the results show a significant and relatively important drop in non-coverage rates among risk-seekers. Risk-seekers had a -3.2 pts decrease in non-coverage in scenario (1) *versus* -0.9 pts among the risk-averse. A similar trend was observed among individuals with the strongest preference for the present. They faced a -1.6 pts decrease in non-coverage in scenario (1) *versus* -1 pt among the others (Table A2). As a result, time and risk preferences would still no longer be significantly associated with being uninsured all other things being equal (Table A3.).

If we now consider the indirect effects of the ANI on dependents (scenario (1+2+3)), the results showed that the non-coverage rate would decrease considerably among individuals under 30 years old, with a high level of non-coverage only among older individuals. The non-coverage rate would also drop considerably among individuals in good health (for example, -2.6 points for those without long-term diseases *versus* -1.2 points for the others). Compared to scenarios (1) and (1+2), there would be a drop in the non-coverage rate among the economically inactive population, even though non-coverage would remain higher in this sub-population. Only scenario (1+2+3) does not increase the correlation, all other things being equal, between being economically inactive and non-coverage compared to those observed in 2012.

4.3.3. The likely effects of employee exemptions on inequalities in coverage

Under the assumption that all employees on fixed-term contracts will refuse to adhere to the employer-sponsored CHI scheme, some of them will remain uninsured. Therefore, inequalities in non-coverage among the whole population will be increased to some extent by previous ones existing among employees before the reform. Indeed, in 2012, large differences in non-coverage existed among private sector employees according to individuals' characteristics (Table A4). Younger employees were most affected by non-coverage (12.5% of those under 20 *versus* approximately 3% of those over 30). The non-coverage rate was also higher among employees in poor or very poor health (8.3% *versus* 4% among those in very good health), those on fixed-term contracts (10.8% *versus* 2.4% among employees with open-ended contracts) and those involuntarily working part-time (7.1% *versus* 3.3% among full-time workers). Finally, non-coverage was also more common among the poorest employees (11.2% compared to 1.8% among the richest) and those with the lowest risk aversion and the strongest preference for the present (8.8% and 7.8% *versus* 2.7% and 2.8%, respectively).

As a consequence, accounting for likely exemptions by short-term employees, the non-coverage rate among the whole population would increase 6.9% for the 18-30 age group in scenario (1) *versus* 5.6% when we do not assume exemptions and 8% in 2012 (Table A2). Only scenario (1+2+3) would significantly reduce their non-coverage rate by 4.5% as they could benefit from the ANI more than other age groups because they can be covered as dependents. The non-coverage rate of risk-seekers is also weakly affected (6.6% under employee exemptions *versus* 4.9% without assuming exemptions). As a result, preferences would still be significantly associated, all other things being equal, with not being insured, which was not the case without assuming exemptions. The results related to socio-economic variables and health status are by contrast quite similar assuming exemptions or not assuming exemptions.

4.4. Who would be the winners and the losers?

Table A5 presents a description of individuals who would gain CHI coverage because of the reform, people who would remain without CHI and those who were already insured before the law.

Individuals who would gain CHI coverage because of the reform are quite young (38.4% of them are less 30 years old in scenario (1+2)) and more than half of them are in good health (Table A5)). By contrast, people who would remain uninsured are all ages (41.5% of them are under 30, 28.5% are between 31 and 60 and 30% are over 60). Thus, compared to those who would gain CHI coverage, those who would remain uninsured are older and therefore more often in poor health (12.4% *versus* 4.5%). Individuals who would gain CHI coverage because of the reform have a lower income than those who were already insured before the law. Nevertheless, people who would remain uninsured are more often in the lower income groups than others. Moreover, individuals who would gain CHI coverage are more often risk-seekers and present-oriented than individuals who would remain uninsured (11.8% and 10.8% *versus* 8.6% and 7.3%, respectively). Taking into account potential exemptions does not notably impact the results, except for risk and time preferences. Under this hypothesis, the proportion

of risk-seekers and present-oriented individuals would be quite similar among the winners and the losers.

5. Discussion

This research provides an *ex ante* evaluation of the Employer-Mandated CHI in France on its capacity to generalize CHI coverage on the overall population and to improve its equity without constraining those who would prefer remaining uninsured.

The results moderate the effects to be expected from the law implemented in France in January 2016 to achieve the goal of 100% insurance coverage. Indeed, the non-coverage rate, estimated at 5% in 2012, would drop to 4% after the implementation of employer-sponsored CHI for all employees, to 3.7% after the inclusion of the short-term unemployed in the estimate and to 2.7% if one assumes that employees' dependents will also benefit from this coverage. The results also moderate the expected effects of this law to improve equity in access to health insurance. Indeed, with its focus on private sector employees, the policy is likely to do little for populations who would benefit most from additional insurance coverage while expanding coverage for other populations that appear to place little value on CHI. The former includes elderly adults who are unaffected by the policy because they are retired and the long-term unemployed. The latter includes healthy young adults with low expected medical expenditures. Although it is impossible with existing data to estimate the value that they place on CHI, the fact that individuals who currently lack CHI tend to be less risk averse and have a higher time discount rate suggests that many would prefer to receive additional compensation in the form of cash wages rather than richer health insurance benefits.

This study relies on methodological choices that need to be discussed. First, we have assumed that all employers will be compliant with the law. Our results provide then an upper bound evaluation of the effects on ANI on the non-coverage rate, since, as shown by Dick for the Hawaiian mandate (1994), the low compliance of employers could reduce the employer-mandate efficacy. However, the compliance of employers is quite credible in the French context since employers have participated in the negotiation and they can benefit from taxes exemption on premiums. Due to the lack of information on the exact length of their former contracts, all unemployed former employees for up to 12 months are considered to be covered after the ANI implementation. However, the right to portability is restricted by the length of the former job contract and those who were exempted when they were employed are in fact not eligible for the new CHI portability. This assumption also overestimates the impact of the ANI law on non-coverage. Regarding exemptions for employees on fixed-term contracts, we have considered under a first assumption that all of them would accept to be covered by their employer and in a second one, that all of them would be exempted. Indeed, only a portion of them will probably choose to decline the employer-sponsored CHI. The non-coverage rate after ANI implementation of 4% (in the scenario 1) computed under the first assumption is therefore overestimated and the rate of 4.4% under the second assumption is underestimated. In return, we have not made assumption on part-time employees' exemptions whereas they can also refuse to subscribe to the scheme as soon as their contributions exceed 10% of their gross income. However, if one assumes the lowest

possible employer contribution (50% of the cost of the contract), and if we consider the average cost of a group contract, estimated at 36.1€ per beneficiary per month in 2012 [19], the employee's portion of 18€ for a single person exceeds 10% of the gross income for less than 15% of part-time employees paid at the French minimum gross salary (1,426€ for a full time job).

6. Conclusion

This ex-ante evaluation should have been run before its implementation by social planners in order to examine its relevance. By moderating the effects to be expected from an employer mandate on non-coverage in France and on related inequalities, this study questions the trade-off that policy makers face to manage the budget for the public program and to achieve equity goals. It thus raises a broader debate on the opportunity to implement such employer mandates inside and outside the French context.

This study provides reliable results on the likely impact of employer mandate on the generalisation of health insurance coverage and its equity in the short term. However, it will be important to provide an ex-post evaluation of the real impact of the law on access to CHI coverage, in particular in the long run, and to study its other consequences, notably on the health risk structure and quality and cost of the CHI contract, depending on whether contracts are obtained through the employer or not. The potential consequences on unemployment, wages and employment contract will have to be monitored as well.

7. Bibliography

1 OCDE (2015). " Panorama de la santé 2015 - Les indicateurs de l'OCDE ". OCDE.

2 Mackenbach J.P., Stirbu I., Roskam A.J.R., Schaap M.M., Menvielle G., Leinsalu M., *et al.* (2008). "Socio-economic Inequalities in Health in 22 European Countries". *N Engl J Med*; 358:2468–81. doi:10.1056/NEJMsa0707519.

3 Bago d'Uva T., Jones A.M., van Doorslaer E. (2009). "Measurement of Horizontal Inequity in Health Care Utilisation Using European Panel Data". *J Health Econ*; 28:280–9. doi:10.1016/j.jhealeco.2008.09.008.

4 Buchmueller T.C., Couffinhal A., Grignon M., Perronin M. (2002). "Access to Physician Services: Does Supplemental Insurance Matter? Evidence from France". *National Bureau of Economic Research*. 13: 669-87.

5 Devaux M. (2015). "Income-related Inequalities and Inequities in Health Care Services Utilisation in 18 Selected OECD Countries". *Eur J Health Econ*;16:21–33. doi:10.1007/s10198-013-0546-4.

6 Dourgnon P., Grignon M., Jusot F. (2001). " L'assurance maladie réduit elle les inégalités sociales de santé? ". Irdes, *Question d'économie de la santé*, n° 43, décembre.

7 Askenazy P., Dormont B., Geoffard P.Y., Paris V. (2013). " Pour un système de santé plus efficace ". *Les notes du conseil d'analyse économique*, n° 8: 1-12.

8 Briet R., Fragonnard B. (2007). " Mission bouclier sanitaire ".

9 Debrand T., Sorasith C. (2010). " Bouclier sanitaire : choisir entre égalité et équité ? Une analyse à partir du modèle ARAMMIS ". Irdes, Document de travail, juin.

10 Geoffard P.Y., Lagasnerie G.D. (2013). " Réformer le système de remboursement pour les soins de ville, une analyse par microsimulation ". *Econ Stat*:89–113.

11 Dourgnon P., Sorasith C., Or Z. (2013). " L'impact du dispositif des affections de longue durée (ALD) sur les inégalités de recours aux soins ambulatoires entre 1998 et 2008 ". Irdes, *Question d'économie de la santé*, n° 183, janvier.

12 Saliba B., Ventelou B.. (2007). " Complementary Health Insurance in France Who Pays? Why? Who will Suffer from Public Disengagement? ". *Health Policy*; 81:166–82. doi:10.1016/j.healthpol.2006.05.017.

13 Arnould M.L., Vidal G. (2008). " Typologie des contrats les plus souscrits auprès des complémentaires santé en 2006 ". *Économie Stat*;450:47-77.

14 Kambia Chopin B., Perronnin M., Pierre A., Rochereau T. (2008). " Les contrats individuels de complémentaire santé : quel poids dans le budget des ménages ? ". *Enquête sur la Santé et la Protection Sociale 2006*, Paris : Irdes, 2008/04: 45-55.

15 Grignon M., Kambia Chopin B. (2009). " Income and the Demand for Complementary Health Insurance in France ". Irdes, Document de travail, avril.

16 Jusot F., Perraudin C., Wittwer J. 2(011). " L'accessibilité financière à la complémentaire santé en France: les résultats de l'enquête Budget de Famille 2006 ". *Économie Stat*;450:29–46.

17 Célant N., Guillaume S., Rochereau T. (2014). " Enquête sur la santé et la protection sociale 2012 ". Rapport de l'Irdes; juin.

18 Guthmuller S., Jusot F., Wittwer J. 2014). "Improving Takeup of Health Insurance Program A Social Experiment in France". *J Hum Resour*;49:167–94. doi:10.3368/jhr.49.1.167.

19 Garnero M., Le Palud V. (2014). " Les contrats les plus souscrits auprès des organismes complémentaire santé en 2010 ". Drees.

20 Touraine M. (2014). "Health Inequalities and France's National Health Strategy". *Lancet Lond Engl*; 383:1101–2. doi:10.1016/S0140-6736(14)60423-2.

21 Franc C., Pierre A. (2015). "Compulsory Private Complementary HealthInsurance Offered by Employers in France: Implications and Current Debate". *Health Policy Amst Neth*; 119:111–6. doi:10.1016/j.healthpol.2014.12.014.

22 Summers L.H. (1989). "Some Simple Economics of Mandated Benefits". *Am Econ Rev*; 79:177–83.

23 Arrow K.J. (1963). "Uncertainty and the Welfare Economics of Medical Care". *Am Econ Rev*; 53:941–73.

24 Hopkins S., Kidd M.P. (1996). "The Determinants of Demand for Private Health Insurance under Medicare". *Appl Econ*; 28:1623–32.

25 Barsky R.B, Juster F.T, Kimball M.S, Shapiro M.D. (1997). "Preference Parameters and Behavioral Heterogeneity: An Experimental Approach in the Health and Retirement Study". *Q J Econ*; 112:537–79. doi:10.1162/003355397555280.

26 Butler J.R.G. (1999). "Estimating Elasticities of Demand for Private Health Insurance in Australia". *Working Paper* Number 43. Australian National University - National Centre for Epidemiology & Population Health.

27 Cutler D.M., Zeckhauser R.J. (1999). "The Anatomy of Health Insurance". *National Bureau of Economic Research*. 7176.

28 Monheit A.C., Vistnes J.P. (2006). "Health Insurance Enrollment Decisions: Preferences for Coverage, Worker Sorting, and Insurance Take Up". *National Bureau of Economic Research*.

29 Doiron D., Jones G., Savage E. (2008). "Healthy, Wealthy and Insured? The Role of Self-assessed Health in the Demand for Private Health Insurance". *Health Econ*;17:317–34. doi:10.1002/hec.1267.

30 Chernew M., Frick K., McLaughlin C.G. (1997). "The Demand for Health Insurance Coverage by Low-income Workers: Can Reduced Premiums Achieve Full Coverage?" *Health Serv Res*;32:453–70.

31 Marquis M.S., Long S.H. (1995). "Worker Demand for Health Insurance in the Non-group Market. *J Health Econ*;14:47–63. doi:10.1016/0167-6296(94)00035-3.

32 Buchmueller T.C., DiNardo J., Valletta R.G. (2011). "The Effect of an Employer Health Insurance Mandate on Health Insurance Coverage and the Demand for Labor: Evidence from Hawaii". *Am Econ J Econ Policy*;3:25–51. doi:10.1257/pol.3.4.25.

33 Lee S.H., Russo G., Nitz L., Jabbar A. 2005). "The Effect of Mandatory Employer-Sponsored Insurance (ESI) on Health Insurance Coverage and Labor Force Utilization in Hawaii: Evidence from the Current Population Survey (CPS) 1994-2004". University of Hawaii at Manoa, Department of Economics.

34 Thurston N.K. (1997). "Labor Market Effects of Hawaii'S Mandatory Employer-Provided Health Insurance". *Ind Labor Relat Rev*;51:117–35. doi:10.1177/001979399705100108.

35 Dick, Andrew W. (2016). "State Report: Will Employer Mandates Really Work? Another Look at Hawaii". http://search.proquest.com/openview/5716bb885fdb-1daa9a13cacb031da622/1?pq-origsite=gscholar.

36 Perronnin M., Pierre A., Rochereau T. (2012). " Panorama de la complémentaire santé collective en France en 2009 et opinions des salariés sur le dispositif. " Irdes, *Question d'économie de la santé*, n° 181. Novembre.

37 Jusot F., Khlat M. (2013). "The Role of Time and Risk Preferences in Smoking Inequalities: A Population-based Study". *Addict Behav*;38:2167–73. doi:10.1016/j.addbeh.2012.12.011.

38 Albouy V., Crépon B. (2007). "Moral Hazard and Health Insurance: An Evaluation Based on Rubin's Causal Framework". Insee, DESE.

39 Le salaire minimum en Europe. (2016). http://www.inegalites.fr/spip.php?page=article&id_article=702.

40 Newhouse J.P,. Group RCIE. (1993). "Free for All?: Lessons from the Rand Health Insurance Experiment". Harvard University Press.

41 Finkelstein A., Taubman S., Wright B., Bernstein M., Gruber J., Newhouse J.P., *et al.* (2011). "The Oregon Health Insurance Experiment: Evidence from the First Year". *National Bureau of Economic Research*.

42 Entre 2000 et 2012, forte hausse des embauches en contrats temporaires, mais stabilisation de la part des CDI dans l'emploi. Drees; 2014.

43 Buchmueller T.C., Couffinhal A. (2004). "Private Health Insurance in France". doi:10.1787/555485381821.

8. Appendix

Table A1 Description of the sample and of the populations affected or not affected by the ANI law

	Sample	Private sector employees Open-ended contract		Unemployed ≤ 12 months	Dependents	Rest of the population
		Open-ended contract	Fixed term contract			
CHI coverage						
Without CHI	5.0	2.4	10.8	16.5	3.9	6.2
With CHI	94.4	97.4	87.5	82.3	95.5	93.3
Unknown	0.6	0.3	1.7	1.3	0.6	0.6
All	100	100	100	100	100	100
Gender						
Male	47.8	53.4	49.2	50.0	47.9	44.5
Female	52.2	46.6	50.8	50.0	52.1	55.5
All	100	100	100	100	100	100
Age						
<18 years old	22.4	0	2.5	0	60.8	13.4
18/30 years old	14.2	17.6	47.3	42.2	13.3	8.9
31/40 years old	13.5	29.0	21.7	23.8	7.8	7.5
41/50 years old	13.2	28.0	14.7	17.2	7.6	8.4
51/60 years old	13.3	23.5	12.2	16.3	7.1	11.6
61/70 years old	11.2	1.9	1.3	0.5	3.1	22.5
70/80 years old	6.6	0	0	0	0.2	14.8
> 80 years old	5.6	0	0.4	0	0	12.8
All	100	100	100	100	100	100
Perceived health						
Very good	21.2	21.3	23.1	18.2	30.4	15.4
Good	32.6	39.3	37.6	34.6	27.6	31.5
Fair	17.5	15.5	14.9	18.2	7.7	24.7
Poor/Very poor	5.3	2.5	1.7	3.6	1.4	9.6
Unknown	23.5	21.4	22.7	25.3	32.8	18.9
All	100	100	100	100	100	100
ALD						
With ALD	16.1	8.3	7.1	9.4	5.8	27.8
Without ALD	83.3	91.1	92.5	90.3	93.8	71.6
Unknown	0.5	0.7	0.4	0.3	0.4	0.6
All	100	100	100	100	100	100
Chronic illness						
With	25.2	20.8	17.5	21.5	12.5	36.2
Without	49.1	55.9	57.7	51.2	52.5	42.6
Unknown	25.7	23.3	24.8	27.3	34.9	21.3
All	100	100	100	100	100	100
Number of individuals	**22,980**	**5,397**	**915**	**376**	**6,793**	**9,499**
% of the population	**100%**	**23.9%**	**3.7%**	**1.6%**	**27.0%**	**43.8%**

	Sample	Private sector employees Open-ended contract		Unemployed ≤ 12 months	Dependents	Rest of the population
		Open-ended contract	Fixed term contract			
Employment status						
Employed	40.7	100	100	0	16.4	19.7
Retired	21.3	0	0	0	4.0	46.3
Unemploymed	5.8	0	0	100	4.5	6.7
Students	25.8	0	0	0	69.2	16.3
House wife/husband	3.9	0	0	0	4.3	6.1
Other inactives	2.4	0	0	0	1.4	4.6
Unknown	0.2	0	0	0	0.1	0.3
All	100	100	100	100	100	100
Income per CU per month						
≤ 650€	5.4	1.2	4.9	5.3	3.0	9.1
651€ / 1,000€	13.6	7.2	15.2	19.8	13.4	16.9
1,001€ / 1,400€	19.1	18.5	21.3	22.4	20.5	18.3
1,401€ / 2,000€	21	26.3	22.1	13.4	20.9	18.5
2,001€ / 3,000€	11.9	17.0	7.8	6.0	12.7	9.1
> 3,000€	4.8	7.1	2.3	3.6	4.6	3.9
Unknown	24.2	22.8	26.4	29.5	24.9	24.2
All	100	100	100	100	100	100
Indicator of social vulnerability*						
Yes	14.3	11.9	18.7	22.5	10.1	16.5
No	57	56.9	50.2	38.2	56.5	58.7
Unknown	28.6	31.2	31.1	39.3	33.4	24.8
All	100	100	100	100	100	100
Material assistance from family or friends*						
Yes	50.8	52.1	52.6	42.6	54.1	49.1
No	12.3	9.8	10.8	12.0	7.0	15.8
Yes but dare not ask	7.6	6.2	5.4	6.5	5.3	9.4
Unknown	29.3	31.9	31.2	38.9	33.5	25.7
All	100	100	100	100	100	100
Risk preferences*						
Risk-averse	65.3	63.0	60.2	53.4	60.0	69.4
Risk-seeking	5.5	5.2	8.5	5.8	6.7	5.0
Unknown	29.2	31.8	31.3	40.8	33.3	25.6
All	100	100	100	100	100	100
Time preferences*						
Future oriented	60.8	62.7	60.5	52.1	58.9	60.6
Present oriented	9.7	5.4	8.2	7.1	7.7	13.3
Unknown	29.5	31.9	31.2	40.8	33.4	26.1
All	100	100	100	100	100	100

* Among those 15 years old and older. Non-responses come from failing to return the self-administratered questionnaire in which those questions were asked.
Source: ESPS, Irdes, 2012.

Table A2 Non-coverage rates observed in 2012 and simulated in the entire population

	Observed in 2012		Simulated. assuming no employee exemptions						Simulated. assuming that all employees in short terms contract will be exempted					
			Scenario (1)		Scenario (1+2)		Scenario (1+2+3)		Scenario (1)		Scenario (1+2)		Scenario (1+2+3)	
	% NC	IC 95	% NC	IC 95	% NC	IC 95	% NC	IC 95	% NC	IC 95	% NC	IC 95	% NC	IC 95
Gender														
Male	5.8	[5.3 ; 6.3]	4.5	[4.1 ; 4.9]	4.2	[3.7 ; 4.6]	3.1	[2.7 ; 3.5]	5.0	[4.5 ; 5.5]	4.7	[4.2 ; 5.1]	3.6	[3.2 ; 4.0]
Female	4.3	[3.9 ; 4.7]	3.5	[3.2 ; 3.9]	3.3	[3.0 ; 3.7]	2.3	[2.0 ; 2.6]	3.9	[3.5 ; 4.2]	3.6	[3.3 ; 4.0]	2.6	[2.2 ; 2.9]
Age														
< 18 years old	4.0	[3.4 ; 4.6]	4.0	[3.4 ; 4.6]	4,0	[3.4 ; 4.6]	1.3	[1.0 ; 1.7]	4.0	[3.4 ; 4.6]	4.0	[3.4 ; 4.6]	1.6	[1.2 ; 2.0]
18/30 years old	8.0	[7.0 ; 8.9]	5.6	[4.8 ; 6.3]	4.5	[3.8 ; 5.2]	3.2	[2.5 ; 3.8]	6.9	[6.0 ; 7.9]	5.9	[5.1 ; 6.8]	4.5	[3.8 ; 5.3]
31/40 years old	4.9	[4.0 ; 5.8]	3.2	[2.4 ; 3.9]	2.5	[1.8 ; 3.2]	1.9	[1.2 ; 2.5]	3.9	[3.1 ; 4.8]	3.3	[2.5 ; 4.0]	2.3	[1.6 ; 3.0]
41/50 years old	4.6	[3.7 ; 5.5]	2.7	[2.1 ; 3.4]	2.6	[1.9 ; 3.2]	2.0	[1.4 ; 2.7]	3.2	[2.5 ; 3.9]	3.1	[2.3 ; 3.8]	2.4	[1.8 ; 3.1]
51/60 years old	4.2	[3.5 ; 5.0]	2.9	[2.3 ; 3.6]	2.9	[2.3 ; 3.5]	2.4	[1.8 ; 3.0]	3.2	[2.6 ; 3.9]	3.2	[2.5 ; 3.8]	2.6	[2.0 ; 3.2]
61/70 years old	4.2	[3.3 ; 5.1]	4.1	[3.2 ; 5.0]	4.1	[3.2 ; 5.0]	3.8	[2.9 ; 4.7]	4.1	[3.2 ; 5.0]	4.1	[3.2 ; 5.0]	3.9	[3.0 ; 4.8]
70/80 years old	4.3	[3.1 ; 5.4]	4.3	[3.1 ; 5.4]	4.3	[3.1 ; 5.4]	4.3	[3.1 ; 5.4]	4.3	[3.1 ; 5.4]	4.3	[3.1 ; 5.4]	4.3	[3.1 ; 5.4]
> 80 years old	6.8	[5.0 ; 8.6]	6.8	[5.0 ; 8.6]	6.8	[5.0 ; 8.6]	6.8	[5.0 ; 8.6]	6.8	[5.0 ; 8.6]	6.8	[5.0 ; 8.6]	6.8	[5.0 ; 8.6]
Perceived health														
Very good	4.6	[4.0 ; 5.3]	3.5	[2.9 ; 4.0]	3.3	[2.8 ; 3.8]	1.8	[1.4 ; 2.2]	3.9	[3.4 ; 4.5]	3.7	[3.2 ; 4.3]	2.4	[1.9 ; 2.8]
Good	4.0	[3.5 ; 4.5]	3.1	[2.6 ; 3.6]	2.8	[2.3 ; 3.2]	2.1	[1.7 ; 2.5]	3.5	[3.1 ; 4.0]	3.2	[2.8 ; 3.7]	2.4	[2.0 ; 2.8]
Fair	4.8	[4.0 ; 5.6]	3.9	[3.2 ; 4.7]	3.7	[3.0 ; 4.4]	3.1	[2.5 ; 3.8]	4.2	[3.4 ; 5.0]	3.9	[3.2 ; 4.7]	3.4	[2.7 ; 4.1]
Poor/very poor	9.9	[7.6 ; 12.1]	8.8	[6.7 ; 10.9]	8.8	[6.7 ; 10.9]	8.1	[6.0 ; 10.1]	9.3	[7.2 ; 11.5]	9.3	[7.2 ; 11.5]	8.7	[6.5 ; 10.8]
Unknown	5.8	[5.2 ; 6.5]	4.7	[4.1 ; 5.2]	4.4	[3.8 ; 4.9]	2.8	[2.3 ; 3.2]	5.0	[4.5 ; 5.6]	4.7	[4.2 ; 5.3]	3.2	[2.7 ; 3.7]
ALD														
With ALD	6.2	[5.3 ; 7.2]	5.7	[4.8 ; 6.7]	5.6	[4.7 ; 6.5]	5.2	[4.3 ; 6.1]	6.0	[5.0 ; 6.9]	5.8	[4.9 ; 6.7]	5.4	[4.5 ; 6.3]
Without ALD	4.8	[4.4 ; 5.1]	3.7	[3.4 ; 4.0]	3.4	[3.1 ; 3.7]	2.2	[2.0 ; 2.4]	4.1	[3.8 ; 4.4]	3.8	[3.5 ; 4.1]	2.6	[2.4 ; 2.9]
Unknown	3.8	[0.8 ; 6.8]	3.4	[0.5 ; 6.3]	3.4	[0.5 ; 6.3]	3.4	[0.5 ; 6.3]	3.4	[0.5 ; 6.3]	3.4	[0.5 ; 6.3]	3.4	[0.5 ; 6.3]
Chronic illness														
With a chronic illness	5.0	[4.3 ; 5.7]	4.4	[3.8 ; 5.0]	4.2	[3.6 ; 4.8]	3.8	[3.2 ; 4.4]	4.7	[4.0 ; 5.3]	4.5	[3.9 ; 5.1]	4.1	[3.5 ; 4.7]
Without a chronic illness	4.5	[4.1 ; 5.0]	3.4	[3.0 ; 3.8]	3.1	[2.7 ; 3.5]	2.0	[1.7 ; 2.3]	3.9	[3.4 ; 4.3]	3.6	[3.2 ; 4.0]	2.5	[2.1 ; 2.8]
Unknown	5.9	[5.3 ; 6.5]	4.7	[4.2 ; 5.3]	4.4	[3.9 ; 5.0]	2.8	[2.4 ; 3.3]	5.1	[4.6 ; 5.7]	4.9	[4.3 ; 5.4]	3.3	[2.8 ; 3.8]
Employment status														
Employed	3.6	[3.2 ; 4.1]	1.2	[0.9 ; 1.4]	1.2	[0.9 ; 1.4]	0.9	[0.7 ; 1.2]	2.1	[1.8 ; 2.5]	2.1	[1.8 ; 2.5]	1.7	[1.4 ; 2.0]
Retired	4.6	[3.9 ; 5.3]	4.6	[3.9 ; 5.3]	4.6	[3.9 ; 5.3]	4.4	[3.7 ; 5.1]	4.6	[3.9 ; 5.3]	4.6	[3.9 ; 5.3]	4.5	[3.8 ; 5.2]
Unemployed	13.7	[11.5 ; 15.8]	13.7	[11.5 ; 15.8]	9.0	[7.3 ; 10.8]	7.1	[5.5 ; 8.7]	13.7	[11.5 ; 15.8]	9.0	[7.3 ; 10.8]	7.4	[5.7 ; 9.0]
Students	4.3	[3.7 ; 4.8]	4.3	[3.7 ; 4.8]	4.2	[3.7 ; 4.8]	1.6	[1.2 ; 1.9]	4.3	[3.7 ; 4.8]	4.3	[3.7 ; 4.8]	1.8	[1.5 ; 2.2]
House wife/husband	8.9	[6.8 ; 10.9]	8.9	[6.8 ; 10.9]	8.9	[6.8 ; 10.9]	6.6	[4.8 ; 8.5]	8.9	[6.8 ; 10.9]	8.9	[6.8 ; 10.9]	6.9	[5.0 ; 8.8]
Other inactives	11.6	[8.6 ; 14.5]	11.6	[8.6 ; 14.5]	11.6	[8.6 ; 14.5]	10.4	[7.5 ; 13.2]	11.6	[8.6 ; 14.5]	11.6	[8.6 ; 14.5]	10.4	[7.5 ; 13.2]
Not known	20.8	[7.8 ; 33.9]	20.8	[7.8 ; 33.9]	20.8	[7.8 ; 33.9]	17.8	[6.1 ; 29.5]	20.8	[7.8 ; 33.9]	20.8	[7.8 ; 33.9]	17.8	[6.1 ; 29.5]
Income per CU														
≤ 650€	14.1	[12.0 ; 16.3]	13.1	[11.0 ; 15.2]	12.7	[10.6 ; 14.8]	10.2	[8.2 ; 12.1]	13.6	[11.5 ; 15.7]	13.2	[11.1 ; 15.3]	10.8	[8.8 ; 12.8]
651€ / 1 000€	8.6	[7.4 ; 9.7]	7.4	[6.3 ; 8.4]	6.8	[5.8 ; 7.8]	4.7	[3.8 ; 5.5]	7.9	[6.8 ; 9.0]	7.3	[6.2 ; 8.3]	5.3	[4.4 ; 6.2]
1 001€ / 1 400€	4.4	[3.7 ; 5.1]	3.5	[2.8 ; 4.1]	3.2	[2.6 ; 3.8]	2.4	[1.9 ; 2.9]	3.8	[3.2 ; 4.5]	3.6	[3.0 ; 4.2]	2.7	[2.2 ; 3.3]
1 401€ / 2 000€	2.7	[2.1 ; 3.3]	1.7	[1.3 ; 2.2]	1.7	[1.2 ; 2.1]	1.4	[0.9 ; 1.8]	2.2	[1.7 ; 2.7]	2.1	[1.6 ; 2.6]	1.7	[1.3 ; 2.2]
2 001€ / 3 000€	1.6	[1.0 ; 2.1]	0.7	[0.3 ; 1.1]	0.7	[0.3 ; 1.1]	0.4	[0.1 ; 0.8]	0.9	[0.5 ; 1.4]	0.9	[0.5 ; 1.4]	0.7	[0.3 ; 1.1]
> 3 000€	3.6	[2.3 ; 5.0]	2.9	[1.7 ; 401]	2.4	[1.3 ; 3.5]	1.5	[0.6 ; 2.3]	3.2	[2.0 ; 4.5]	2.7	[1.6 ; 3.8]	1.7	[0.7 ; 2.6]
Unknown	5.4	[4.8 ; 6.0]	4.3	[3.7 ; 4.9]	3.9	[3.4 ; 4.5]	2.6	[2.2 ; 3.1]	4.7	[4.1 ; 5.3]	4.4	[3.8 ; 5.0]	3.1	[2.6 ; 3.6]
Indicator of social vulnerability*														
Yes	9.0	[7.7 ; 10.2]	6.9	[5.8 ; 8.0]	6.3	[5.2 ; 7.3]	5.6	[4.6 ; 6.7]	7.8	[6.6 ; 9.0]	7.2	[6.1 ; 8.4]	6.5	[5.3 ; 7.6]
No	3.6	[3.2 ; 4.0]	2.7	[2.4 ; 3.1]	2.6	[2.2 ; 2.9]	2.1	[1.8 ; 2.4]	3.1	[2.7 ; 3.5]	2.9	[2.6 ; 3.3]	2.4	[2.1 ; 2.8]
Not known	6.6	[5.9 ; 7.4]	5.0	[4.4 ; 5.7]	4.5	[3.9 ; 5.1]	3.6	[3.0 ; 4.1]	5.6	[4.9 ; 6.2]	5.0	[4.4 ; 5.7]	4.1	[3.5 ; 4.7]
Material assistance from family or friends*														
Yes	4.1	[3.6 ; 4.5]	3.0	[2.6 ; 3.4]	2.8	[2.4 ; 3.1]	2.3	[1.9 ; 2.6]	3.5	[3.1 ; 3.9]	3.3	[2.8 ; 3.7]	2.7	[2.3 ; 3.1]
No	7.1	[5.8 ; 8.4]	5.7	[4.5 ; 6.8]	5.3	[4.2 ; 6.5]	4.7	[3.7 ; 5.8]	6.3	[5.1 ; 7.6]	6.0	[4.8 ; 7.2]	5.4	[4.2 ; 6.5]
Yes but dare not ask	5.0	[3.8 ; 6.3]	4.2	[3.1 ; 5.3]	3.9	[2.8 ; 4.9]	3.4	[2.4 ; 4.4]	4.3	[3.2 ; 5.4]	4.0	[2.9 ; 5.0]	3.5	[2.5 ; 4.5]
Not known	6.5	[5.8 ; 7.2]	5.0	[4.3 ; 5.6]	4.5	[3.8 ; 5.1]	3.6	[3.0 ; 4.1]	5.5	[4.8 ; 6.1]	5.0	[4.4 ; 5.6]	4.1	[3.5 ; 4.6]
Risk preferences*														
Risk-seekers	8.1	[6.0 ; 10.1]	4.9	[3.3 ; 6.6]	4.7	[3.0 ; 6.4]	4.0	[2.4 ; 5.5]	6.6	[4.7 ; 8.5]	6.4	[4.5 ; 8.2]	5.5	[3.8 ; 7.3]
Risk-averse	4.4	[4.0 ; 4.8]	3.5	[3.1 ; 3.8]	3.2	[2.8 ; 3.6]	2.7	[2.4 ; 3.1]	3.8	[3.5 ; 4.2]	3.6	[3.2 ; 4.0]	3.1	[2.7 ; 3.4]
Not known	6.6	[5.9 ; 7.3]	5.0	[4.4 ; 5.6]	4.5	[3.9 ; 5.0]	3.6	[3.0 ; 4.1]	5.5	[4.9 ; 6.2]	5.0	[4.4 ; 5.6]	4.0	[3.5 ; 4.6]
Time preferences*														
For the present	7.3	[5.9 ; 8.7]	5.7	[4.5 ; 6.9]	5.6	[4.4 ; 6.8]	4.9	[3.7 ; 6.1]	6.6	[5.3 ; 8.0]	6.5	[5.2 ; 7.9]	5.7	[4.4 ; 7.0]
For the future	4.2	[3.8 ; 4.7]	3.2	[2.9 ; 3.6]	3.0	[2.6 ; 3.3]	2.5	[2.1 ; 2.8]	3.6	[3.2 ; 4.0]	3.4	[3.0 ; 3.8]	2.9	[2.5 ; 3.2]
Not known	6.6	[5.9 ; 7.3]	5.0	[4.4 ; 5.6]	4.5	[3.9 ; 5.0]	3.6	[3.0 ; 4.1]	5.5	[4.9 ; 6.2]	5.0	[4.4 ; 5.6]	4.1	[3.5 ; 4.7]
Total	**5.0**	**[4.7 ; 5.3]**	**4.0**	**[3.7 ; 4.3]**	**3.7**	**[3.4 ; 4.0]**	**2.7**	**[2.4 ; 2.9]**	**4.4**	**[4.1 ; 4.7]**	**4.1**	**[3.8 ; 4.4]**	**3.1**	**[2.8 ; 3.3]**
Among + 15 years old	**5.2**	**[4.9 ; 5.6]**	**4.0**	**[3.7 ; 4.3]**	**3.7**	**[3.4 ; 4.0]**	**3.0**	**[2.7 ; 3.3]**	**4.5**	**[4.2 ; 4.8]**	**4.2**	**[3.8 ; 4.5]**	**3.5**	**[3.2 ; 3.8]**
Among uninsured in 2012	**100**	**[100 ; 100]**	**79.9**	**[77.3 ; 82.4]**	**74.5**	**[71.8 ; 77.2]**	**53.5**	**[50.4 ; 56.7]**	**87.9**	**[85.9 ; 90.0]**	**82,6**	**[80.2 ; 84.9]**	**61.8**	**[58.7 ; 64.8]**

* Among those 15 years old and older.

Source: ESPS, Irdes, 2012.

Table A3 Modelling of non-coverage among the entire population

	Observed in 2012		Simulated, assuming no exemptions						Simulated, assuming exemptions					
			S(1)		S(1+2)		S(1+2+3)		S(1)		S(1+2)		S(1+2+3)	
	EM	Pr.	EM	Pr.	EM	Pr.	EM	Pr.	EM	Pr.	EM	Pr.	EM	Pr.
Gender - Ref: Male														
Female	-1.2	***	-0.8	***	-0.7	***	-0.7	***	-1.0	***	-0.9	***	-0.9	***
Age *(Ref: 51-60 years old)*														
- 18 years old	2.0	ns	0.8	ns	0.5	ns	0.4	ns	2.1	*	1.8	ns	1.7	ns
18/30 years old	4.2	***	2.1	**	1.6	**	0.8	*	4.1	***	3.5	***	2.6	***
31/40 years old	1.2	ns	0.7	ns	0.2	ns	-0.0	ns	1.3	*	0.8	ns	0.3	ns
41/50 years old	0.4	ns	0.2	ns	0.1	ns	-0.1	ns	0.2	ns	0.1	ns	-0.0	ns
61/70 years old	0.5	ns	0.4	ns	0.3	ns	0.8	ns	0.4	ns	0.4	ns	1.0	ns
71/80 years old	0.9	ns	0.6	ns	0.5	ns	1.2	ns	0.7	ns	0.6	ns	1.4	ns
+ 80 years old	2.9	*	2.1	*	1.9	*	2.6	**	2.4	*	2.2	*	3.0	**
With ALD *(Ref: No)*														
Yes	0.3	ns	0.2	ns	0.3	ns	0.2	ns	0.4	ns	0.4	ns	0.3	ns
Not known	-1.6	ns	-0.7	ns	-0.5	ns	0.2	ns	-1.2	ns	-1.0	ns	-0.1	ns
Chronic illness *(Ref: No)*														
Yes	-0.9	*	-0.5	ns	-0.4	ns	-0.1	ns	-0.6	ns	-0.5	ns	-0.2	ns
Not known	0.4	ns	0.5	ns	0.6	ns	0.5	ns	0.7	ns	0.9	ns	0.5	ns
Perceived health *(Ref: Very good/good)*														
Fair	0.2	ns	0.1	ns	0.0	ns	-0.1	ns	-0.0	ns	-0.0	ns	-0.1	ns
Poor/very poor	2.3	*	1.4	*	1.5	*	0.7	ns	1.7	*	1.8	*	1.1	ns
Not known	-0.2	ns	-0.3	ns	-0.4	ns	-0.2	ns	-0.5	ns	-0.6	ns	-0.2	ns
Employment status *(Ref: Employed)*														
Retired	1.4	ns	5.4	***	5.0	***	2.6	***	3.8	***	3.4	***	2.0	**
Unemployed	4.1	***	11.2	***	7.2	***	4.1	***	7.0	***	3.8	***	2.2	***
School children; students	-0.8	ns	3.5	***	3.5	***	1.1	*	1.0	ns	1.0	ns	-0.3	ns
House wife/husband	3.2	**	9.2	***	8.6	***	4.7	***	6.2	***	5.7	***	3.4	***
Other economically inactive	4.6	***	11.4	***	10.6	***	7.4	***	7.9	***	7.3	***	5.4	***
Not known	12.9	*	23.2	**	23.1	**	17.6	**	17.7	**	17.5	**	13.5	*
Income per CU *(Ref: Over 2,000€)*														
Less than or equal to 650€	10.2	***	8.0	***	8.9	***	8.1	***	9.5	***	10.4	***	9.7	***
Between 651€ and 1,200€	7.1	***	5.5	***	5.7	***	3.8	***	6.5	***	6.7	***	4.9	***
Between 1,201€ and 1,400€	2.5	***	2.3	***	2.4	**	2.0	***	2.6	***	2.8	***	2.3	***
Between 1,401€ and 2,000€	0.7	ns	0.4	ns	0.6	ns	0.7	ns	0.8	ns	0.9	ns	1.0	ns
Not known	3.4	***	2.9	***	3.0	***	2.0	***	3.4	***	3.5	***	2.5	***
Indicator of social vulnerability *(Ref: No)*														
Yes	3.2	***	1.7	***	1.5	**	1.2	***	2.5	***	2.3	***	1.7	***
Not known	1.8	**	1.6	**	1.5	**	1.0	*	1.8	**	1.7	**	1.1	*
Material assistance from family or friends *(Ref: Yes)*														
No	1.0	ns	0.6	ns	0.5	ns	0.3	ns	0.8	ns	0.8	ns	0.4	ns
Yes but dare not ask	0.7	ns	0.6	ns	0.5	ns	0.4	ns	0.4	ns	0.3	ns	0.2	ns
Not known	-0.7	ns	-0.6	ns	-0.5	ns	-1.1	***	-0.6	ns	-0.5	ns	-1.2	**
Time preferences *(Ref: For the future)*														
For the present	1.1	*	0.5	ns	0.6	ns	0.3	ns	0.9	ns	0.9	*	0.5	ns
Not known	0.9	ns	0.1	ns	0.1	ns	0.5	ns	0.7	ns	0.7	ns	1.0	ns
Risk preferences *(Ref: Risk-averse)*														
Risk seeking	1.6	*	0.2	ns	0.4	ns	0.6	ns	1.0	ns	1.2	ns	1.2	*
Not known	-0.2	ns	-0.0	ns	-0.1	ns	-0.5	ns	-0.5	ns	-0.6	ns	-1.0	ns
Pr(Y=1/X=mean)	**0.051**		**0.041**		**0.038**		**0.026**		**0.045**		**0.042**		**0.030**	

EM: Marginal effects calculated in points; Pr: Probability that the marginal effect is equal to 0.
***: p<0.001; **: 0.001<p<=0.01; *:0.01<p<=0.05.

Source: ESPS, Irdes, 2012.

Table A4 Non-coverage rates observed in 2012 and simulated among private sector employees

	Observed In 2012		Simulated. assuming no employee exemptions		Simulated. assuming employee exemptions		Number of employees
	% NC	IC 95	% NC	IC 95	% NC	IC 95	
Gender							
Male	4.1	[3.4 ; 4.8]	0	[0 ; 0]	1.6	[1.1 ; 2.1]	3,494
Female	3.0	[2.3 ; 3.7]	0	[0 ; 0]	1.2	[0.8 ; 1.7]	2,983
Age							
≤ 20 years old	12.5	[5.4 ; 19.6]	0	[0 ; 0]	8.1	[2.8 ; 13.5]	172
21/25 years old	6.5	[4.3 ; 8.7]	0	[0 ; 0]	3.9	[2.1 ; 5.6]	567
26/30 years old	3.7	[2.2 ; 5.3]	0	[0 ; 0]	1.9	[0.7 ; 3.1]	668
31/40 years old	3.0	[2.2 ; 3.9]	0	[0 ; 0]	1.3	[0.7 ; 1.9]	1,540
41/50 years old	3.3	[2.3 ; 4.3]	0	[0 ; 0]	0.9	[0.4 ; 1.4]	1,877
51/60 years old	2.7	[1.8 ; 3.7]	0	[0 ; 0]	0.6	[0.1 ; 1.1]	1,535
> 60 years old	2.0	[0 ; 4.3]	0	[0 ; 0]	0	[0 ; 0]	118
Perceived health							
Very good	4.0	[2.8 ; 5.1]	0	[0 ; 0]	1.6	[0.8 ; 2.3]	1,338
Good	2.6	[1.8 ; 3.3]	0	[0 ; 0]	1.3	[0.8 ; 1.8]	2,429
Fair	3.4	[2.0 ; 4.9]	0	[0 ; 0]	1.1	[0.2 ; 1.9]	984
Poor/very poor	8.3	[2.7 ; 14.0]	0	[0 ; 0]	4.4	[0 ; 8.8]	143
Unknown	4.5	[3.4 ; 5.7]	0	[0 ; 0]	1.4	[0.7 ; 2.1]	1,583
With ALD							
Yes	3.6	[1.7 ; 5.4]	0	[0 ; 0]	1.7	[0.3 ; 3.0]	525
Not known	3.6	[3.1 ; 4.1]	0	[0 ; 0]	1.4	[1.1 ; 1.8]	5,906
Unknown	1.2	[0 ; 3.5]	0	[0 ; 0]	0	[0 ; 0]	46
With Chronic illness							
Yes	2.6	[1.6 ; 3.5]	0	[0 ; 0]	1.2	[0.5 ; 2.0]	1,268
No	3.5	[2.9 ; 4.2]	0	[0 ; 0]	1.4	[1.0 ; 1.9]	3,505
Unknown	4.5	[3.4 ; 5.6]	0	[0 ; 0]	1.6	[0.9 ; 2.3]	1,704
Employment contract							
Open-ended	2.4	[1.9 ; 2.8]	0	[0 ; 0]	0	[0 ; 0]	5,397
Fixed-term	10.8	[8.4 ; 13.2]	0	[0 ; 0]	10.8	[8.4 ; 13.2]	915
Other contrat	3.7	[0 ; 8.8]	0	[0 ; 0]	0	[0 ; 0]	93
Not known	9.2	[2.5 ; 15.9]	0	[0 ; 0]	0	[0 ; 0]	72
Total of employees	**3.6**	**[3.1 ; 4.1]**	**0**	**[0 ; 0]**	**1.4**	**[1.1 ; 1.8]**	**6,477**

	Observed In 2012		Simulated. assuming no employee exemptions		Simulated. assuming employee exemptions		Number of employees
	% NC	IC 95	% NC	IC 95	% NC	IC 95	
Working time							
Full time	3.3	[2.8 ; 3.8]	0	[0 ; 0]	1.2	[0.8 ; 1.5]	5,238
Voluntary part-time	2.4	[1.1 ; 3.6]	0	[0 ; 0]	0.2	[0 ; 1.5]	647
Involuntary part-time	7.1	[4.6 ; 9.5]	0	[0 ; 0]	5.2	[3.0 ; 7.5]	537
Not known	12.2	[1.5 ; 22.9]	0	[0 ; 0]	6.5	[0 ; 15.9]	55
Income per CU							
≤ 650€	11.2	[5.6 ; 16.8]	0	[0 ; 0]	5.3	[1.7 ; 9.0]	155
651€ / 1,000€	6.7	[4.5 ; 8.9]	0	[0 ; 0]	2.9	[1.3 ; 4.5]	599
1,001€ / 1,400€	3.3	[2.1 ; 4.5]	0	[0 ; 0]	1.3	[0.5 ; 2.0]	1,190
1,401€ / 2,000€	2.8	[1.8 ; 3.8]	0	[0 ; 0]	1.3	[0.6 ; 1.9]	1,534
2,001€ / 3,000€	2.3	[1.2 ; 3.5]	0	[0 ; 0]	0.6	[0 ; 1.3]	939
> 3,000€	1.8	[0.1 ; 3.6]	0	[0 ; 0]	0.8	[0 ; 1.9]	382
Unknown	4.1	[3.0 ; 5.3]	0	[0 ; 0]	1.6	[0.9 ; 2.4]	1,678
Indicator of social vulnerability*							
Yes	6.7	[4.7 ; 8.7]	0	[0 ; 0]	3.0	[1.6 ; 4.4]	777
No	2.5	[1.9 ; 3.1]	0	[0 ; 0]	1.1	[0.6 ; 1.5]	3,580
Not known	4.3	[3.3 ; 5.2]	0	[0 ; 0]	1.4	[0.8 ; 2.0]	2,120
Material assistance from family or friends*							
Yes	3.0	[2.3 ; 3.7]	0	[0 ; 0]	1.4	[0.9 ; 1.9]	3,264
No	5.1	[2.9 ; 7.3]	0	[0 ; 0]	2.4	[1.0 ; 3.8]	656
Yes but dare not ask	3.0	[1.2 ; 4.8]	0	[0 ; 0]	0.4	[0 ; 0.8]	402
Not known	4.2	[3.2 ; 5.1]	0	[0 ; 0]	1.4	[0.8 ; 2.0]	2,155
Risk preference*							
Risk-seeking	8.8	[5.1 ; 12.5]	0	[0 ; 0]	4.7	[2.0 ; 7.4]	354
Risk-averse	2.7	[2.2 ; 3.3]	0	[0 ; 0]	1.1	[0.8 ; 1.5]	3,972
Not known	4.3	[3.3 ; 5.2]	0	[0 ; 0]	1.4	[0.6 ; 2.0]	2,151
Time preference*							
For the present	7.8	[4.5 ; 11.1]	0	[0 ; 0]	4.6	[1.8 ; 7.3]	374
For the futur	2.8	[2.2 ; 3.4]	0	[0 ; 0]	1.1	[0.8 ; 1.5]	3,946
Not known	4.3	[3.3 ; 5.3]	0	[0 ; 0]	1.4	[0.8 ; 2.1]	2,157
Among uninsured in 2012	**100**	**[100 ; 100]**	**0**	**[0 ; 0]**	**40.1**	**[32.9 ; 47.3]**	**234**

* Among those 15 years old and older.

Source: ESPS, Irdes, 2012.

Table A5 Description of the population who would remain without CHI after the ANI law

	With CHI in 2012	Without CH in 2012	Simulations without exemption						Simulations with exemptions					
			Become insured			Remain uninsured			Become insured			Remain uninsured		
			(1)	(1+2)	(1+2+3)	(1)	(1+2)	(1+2+3)	(1)	(1+2)	(1+2+3)	(1)	(1+2)	(1+2+3)
Gender														
Male	47.4	55.0	60.1	59.5	54.4	53.8	53.5	55.6	60.7	59.7	53.3	54.3	54.1	56.1
Female	52.6	45.0	39.9	40.5	45.6	46.2	46.5	44.4	39.3	40.3	46.7	45.7	45.9	43.9
All	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Age														
<18 years old	22.6	18.1	0	0	26.1	22.7	24.3	11.2	0	0	28.7	20.6	22.0	11.6
18/30 years old	13.6	22.6	34.1	38.4	29.4	19.7	17.2	16.7	24.2	33.5	25.5	22.4	20.3	20.8
31/40 years old	13.5	13.3	23.5	25.6	17.8	10.7	9.0	9.4	22.2	25.7	18.1	12.1	10.7	10.3
41/50 years old	13.3	12.1	24.4	20.9	14.6	9.0	9.1	10.0	30.2	23.2	14.8	9.7	9.8	10.5
51/60 years old	13.5	11.3	16.9	14.3	10.5	9.8	10.2	11.9	21.6	16.3	11.3	9.8	10.2	11.3
61/70 years old	11.3	9.3	1.1	0.8	1.8	11.4	12.2	15.9	1.8	1.2	1.6	10.4	11.0	14.1
70/80 years old	6.6	5.6	0	0	0	7.0	7.5	10.5	0	0	0	6.4	6.8	9.1
> 80 years old	5.5	7.7	0	0	0	9.6	10.3	14.3	0	0	0	8.7	9.3	12.4
All	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Perceived health														
Very good	21.3	19.6	23.8	22.5	25.5	18.5	18.6	14.5	24.1	22.1	25.1	19.0	19.1	16.2
Good	33.0	25.8	27.9	30.0	26.7	25.3	24.3	25.0	22.8	27.5	26.5	26.2	25.4	25.4
Fair	17.6	16.7	15.2	15.6	12.5	17.1	17.1	20.5	17.3	17.3	12.6	16.7	16.6	19.3
Poor/Very poor	5.0	10.4	5.7	4.5	4.1	11.6	12.4	15.9	4.5	3.1	3.2	11.2	12.0	14.9
Unknown	23.1	27.5	27.4	27.4	31.3	27.5	27.5	24.2	31.3	30.1	32.6	27.0	26.9	24.3
All	100	100	100	100	100	100	100	100	100	100	100	100	100	100
ALD														
With ALD	16.0	20.1	8.2	8.7	7.4	23.2	24.1	31.2	7.3	8.3	6.9	21.9	22.7	28.4
Without ALD	83.5	79.4	91.6	91.2	92.5	76.4	75.4	68.1	92.4	91.5	93.0	77.7	76.9	71.0
Unknown	0.5	0.4	0.2	0.2	0.1	0.5	0.5	0.7	0.4	0.2	0.1	0.4	0.5	0.6
All	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Chronic illness														
With	25.3	25.2	14.9	15.3	13.0	27.8	28.6	35.7	13.0	14.2	12.0	26.8	27.5	33.4
Without	49.5	44.6	55.6	55.6	53.4	41.8	40.8	37.0	55.2	55.4	53.3	43.1	42.3	39.2
Unknown	25.2	30.2	29.5	29.1	33.6	30.4	30.6	27.3	31.8	30.4	34.7	30.0	30.2	27.5
All	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Employment status														
Employed	41.3	29.5	100	78.9	47.0	11.8	12.6	14.3	100,0	69.1	40.9	19.9	21.1	22.5
Retired	21.5	19.5	0	0	1.5	24.5	26.2	35.2	0	0	1.3	22.2	23.7	30.8
Unemployemed	5.2	15.9	0	21.1	16.4	19.9	14.1	15.4	0	30.9	19.1	18.0	12.7	13.8
Students	26.0	22.1	0	0	30.1	27.6	29.6	15.1	0	0	33.2	25.1	26.7	15.2
House wife/husband	3.7	6.8	0	0	3.7	8.5	9.2	9.6	0	0	3.9	7.8	8.3	8.6
Other inactives	2.2	5.5	0	0	1.2	6.9	7.4	9.3	0	0	1.5	6.3	6.7	8.0
Unknown	0.1	0.7	0	0	0.2	0.9	1.0	1.2	0	0	0.3	0.8	0.9	1,0
All	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Income per CU per month														
≤ 650 €	4.8	15.2	5.5	6.0	9.1	17.6	18.3	20.4	4.8	5.8	9.4	16.6	17.2	18.7
651€ /1,000€	13.1	23.4	16.0	19.2	22.9	25.2	24.8	23.7	15.2	20.2	23.4	24.5	24.0	23.4
1,001€ /1,400€	19.3	16.7	17.7	17.3	16.6	16.5	16.5	16.8	18.0	17.3	16.6	16.6	16.6	16.8
1,401€ /2,000€	21.6	11.4	20.4	16.8	12.2	9.1	9.5	10.6	19.0	14.2	10.7	10.3	10.8	11.8
2,001€ /3,000€	12.3	3.7	10.2	8.0	5.7	2.1	2.2	2.0	12.3	8.5	5.4	2.5	2.7	2.6
> 3,000€	4.9	3.5	3.3	4.6	4.4	3.5	3.1	2.6	3.2	5.1	4.9	3.5	3.1	2.6
Unknown	24.0	26.2	27.1	28.1	29.0	26,0	25.6	23.8	27.6	28.9	29.6	26.0	25.7	24.1
All	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Indicator of social vulnerability*														
Yes	13.8	24.6	24.5	24.8	21.9	22.4	23.4	20.8	24.7	24.6	26.6	25.0	24.9	26.5
No	58.3	39.0	38.4	36.1	38.3	36.5	33.8	37.1	39.2	40.2	39.6	39.4	40.4	40.0
Unknown	27.9	36.4	37.1	39.1	39.9	41.1	42.8	42.1	36.1	35.2	33.8	35.6	34.7	33.5
All	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Material assistance from family or friends*														
Yes	51.7	39.4	43.3	41.8	41.7	38.4	37.8	39.1	38.2	38.3	37.7	39.5	39.8	39.5
No	12.1	16.8	14.5	14,0	13.3	12.8	12.6	12.5	17.5	17.9	19.2	17.4	17.8	18.9
Yes but dare not ask	7.7	7.3	5.2	5.8	5.7	7.6	7.7	6.9	8.0	8,0	8.5	7.3	7.2	7.5
Unknown	28.6	36.5	37.0	38.5	39.3	41.1	41.9	41.6	36.4	35.7	34.6	35.8	35.2	34.1
All	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Risk preferences*														
Risk-averse	66.2	54.6	48.1	48.1	49,0	46.8	47.2	48.9	56.6	57.4	58.6	55.9	56.5	57.5
Risk-seeking	5.3	8.5	14.0	11.8	10.2	10.9	8.6	8.1	6.8	7.0	7.2	8.1	8.4	8.7
Unknown	28.5	36.9	37.9	40.1	40.8	42.4	44.2	43.1	36.6	35.6	34.2	36.1	35.1	33.9
All	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Time preferences*														
For the futur	61.7	49.1	49.1	48.8	48.2	48.8	48.5	48.0	49.1	49.3	49.8	49.2	49.3	49.7
For the present	9.6	13.6	12.7	10.8	10.9	8.9	7.3	9.0	13.9	14.8	15.6	14.4	15.3	15.9
Unknown	28.7	37.3	38.2	40.4	40.9	42.4	44.2	43.0	37.0	35.9	34.7	36.4	35.5	34.4
All	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Number	**21,638**	**1,172**	**234**	**288**	**569**	**938**	**884**	**603**	**144**	**198**	**473**	**1,028**	**974**	**699**

* Among those 15 years old and older.

Source: ESPS, Irdes, 2012.

Achevé d'imprimer le 2 mars 2017
Sprint Copy, 75018 Paris
Dépôt légal mars 2017

Documents de travail de l'Irdes

- **Dépenses de santé, vieillissement et fragilité : le cas français** /
  Sirven N., Rapp T. /
  Irdes, Document de travail n° 71, juin 2016
- **Analyse de sensibilité de l'Accessibilité potentielle localisée (APL)** /
  Lucas-Gabrielli V., Nestrigue C.,
  en collaboration avec Coldefy M. (Irdes)
  Document de travail n° 70, février 2016
- **Experience Rating, Incidence of Musculoskeletal Disorders and Related Absences. Results from a Natural Experiment** / Lengagne P., Afrite A.
  Irdes, Document de travail n° 69, octobre 2015
- **Quel est l'impact de la survenue d'un accident du travail sur la santé et le parcours professionnel ?** /
  Ben Halima M.A., Regaert C. /
  Irdes, Document de travail n° 68, septembre 2015
- **Une évaluation *ex ante* de la généralisation de la complémentaire santé d'entreprise sur les inégalités et les déterminants de la non-couverture** /
  Pierre A., Jusot F. /
  Irdes, Document de travail n° 67, juillet 2015
- **Quel est l'impact du système d'indemnisation maladie sur la durée des arrêts de travail pour maladie ?** /
  Ben Halima M.A., Hyafil-Solelhac V., Koubi M., Regaert C. /
  Irdes, Document de travail n° 66, avril 2015
- **La survenue du cancer : effets de court et moyen termes sur l'emploi, le chômage et les arrêts maladie** /
  Barnay T., Ben Halima M. A., Duguet E., Lanfranchi J., Le Clainche. /
  Irdes, Document de travail n° 65, avril 2015.
- **Workers Compensation Insurance: Incentive Effects of Experience Rating on Work-related Health and Safety** /
  Lengagne P./
  Irdes, Document de travail n° 64, décembre 2014.
- **Une estimation de la précarité des patients recourant à la médecine générale en centres de santé. Le cas des centres de santé du projet Epidaure-CDS** /
  Afrite A., Mousquès J., Bourgueil Y.
  Irdes, Document de travail n° 63, décembre 2014.
- **Formes du regroupement pluriprofessionnel en soins de premiers recours. Une typologie des maisons, pôles et centres de santé participant aux Expérimentations des nouveaux modes de rémunération (ENMR)** /
  Afrite A., Mousquès J.
  Irdes, Document de travail n° 62, octobre 2014
- **Les déterminants du don de sang en France. Une analyse sur données de l'enquête ESPS 2012** /
  Errea M., Sirven N, Rochereau T.
  Irdes, Document de travail n° 61, juin 2014
- **Mesurer la fragilité des personnes âgées en population générale : une comparaison entre ESPS et SHARE** / Sirven N.
  Irdes, Document de travail n° 60, mai 2014
- **La pertinence des pratiques d'hospitalisation : une analyse des écarts départementaux de prostatectomies** /
  Or Z., Verboux D.
  Irdes, Document de travail n° 59, avril 2014.
- **Supplemental Health Insurance and Healthcare Consumption: A Dynamic Approach to Moral Hazard** /
  Franc C., Perronnin M., Pierre A.
  Irdes, Document de travail n° 58, janvier 2014.
- **Maisons et pôles de santé : places et impacts dans les dynamiques territoriales d'offre de soins en France** /
  Chevillard G., Mousquès J., Lucas-Gabrielli V., Bourgueil Y., Rican S., Salem G.
  Irdes, Document de travail n° 57, novembre 2013.
- **Une analyse des déterminants socio-économiques de la fragilité des personnes âgées à partir des données de panel et rétrospectives de SHARE** / Sirven N.
  Irdes, Document de travail n° 52bis, avril 2013.

Autres publications de l'Irdes

Rapports

- **L'évaluation économique et la recherche sur les services de santé** / Bourgueil Y.
  Irdes, Rapport n° 565, décembre 2016, 63 pages, 20 €.
- **Pratiques spatiales d'accès aux soins** /
  Lucas-Gabrielli V., Pierre A., Com-Ruelle L., Coldefy M.
  Irdes, Rapport n° 564, octobre 2016, 98 pages, 20 €.
- **La prévention de la perte d'autonomie : la fragilité en questions. Apports, limites et perspectives. Actes du séminaire des 6 et 7 mars 2014 organisé à Paris par le Liraes (EA4470), Université Paris Descartes, en partenariat avec l'Irdes** /
  Sirven N., Bourgueil Y.
  Irdes, Rapport n° 563, janvier 2016, 113 pages, 20 €.
- **La polymédication au regard de différents indicateurs de sa mesure : impact sur la prévalence, les classes thérapeutiques concernées et les facteurs associés** /
  Le Cossec C.
  Irdes, Rapport n° 562, décembre 2015, 72 pages, 25 €.

Questions d'économie de la santé

- **Les soins sans consentement en psychiatrie : bilan après quatre années de mise en œuvre de la loi du 5 juillet 2011** /
  Coldefy M., Fernandes S., avec la collaboration de Lapalus D.
  Irdes, *Questions d'économie de la santé* n° 222, février 2017.
- **L'accès aux soins en cancérologie : évolution de l'offre et recours aux soins entre 2005 et 2012** /
  Bonastre J. , Mobillion V., Or Z., Touré M.
  Irdes, *Questions d'économie de la santé* n° 221, janvier 2017.
- **Stratégies de désinvestissement des produits pharmaceutiques : une revue de littérature internationale** /
  Parkinson B., Sermet C., Clement F., Crausaz S., Godman B., Garner S., Choudhury M., Pearson S.A., Viney R., Lopert R., Elshaug A.G.
  Irdes, *Questions d'économie de la santé* n° 220, juillet/août 2016.
- **Recours aux soins ambulatoires et distances parcourues par les patients : des différences importantes selon l'accessibilité territoriale aux soins** /
  Com-Ruelle L., Lucas-Gabrielli V., Pierre A. (Irdes).
  En collaboration de Coldefy M.
  Irdes, *Questions d'économie de la santé* n° 219, juin 2016.

The Likely Effects of Employer-Mandated Complementary Health Insurance on Health Coverage in France

Aurélie Pierre (Irdes, CESP Inserm), Florence Jusot (Université Paris-Dauphine, PSL Research University, Leda-Legos & Irdes)

In France, access to health care greatly depends on having a Complementary Health Insurance coverage (CHI). Thus, the generalisation of CHI became a core factor in the national health strategy created by the government in 2013. The first measure has been to compulsorily extend employer-sponsored CHI to all private sector employees on January 1st, 2016 and improve its portability coverage for unemployed former employees for up to 12 months. Based on data from the 2012 Health, Health Care and Insurance survey, this article provides a simulation of the likely effects of this mandate on CHI coverage and related inequalities in the general population by age, health status, socio-economic characteristics and time and risk preferences. We show that the non-coverage rate that was estimated to be 5% in 2012 will drop to 4% following the generalisation of employer-sponsored CHI and to 3.7% after accounting for portability coverage. With its focus on private sector employees, the policy is likely to do little for populations that would benefit most from additional insurance coverage while expanding coverage for other populations that appear to place little value on CHI. Indeed, the mandate could reduce the relationship between non-coverage and time and risk preferences without eliminating social inequalities as the most vulnerable populations are expected to remain more often without CHI.

ISBN : 978-2-87812-424-8 ISSN papier : 2101-5902 / ISSN électronique : 2102-6386