Direction des Études et Synthèses Économiques

G 2015 / 12

Annual and lifetime incidence of the value-added tax in France

Simon GEORGES-KOT

Document de travail

Institut National de la Statistique et des Études Économiques

INSTITUT NATIONAL DE LA STATISTIQUE ET DES ÉTUDES ÉCONOMIQUES

Série des documents de travail
de la Direction des Études et Synthèses Économiques

G 2015 / 12

Annual and lifetime incidence of the value-added tax in France

Simon GEORGES-KOT *

SEPTEMBRE 2015

Je remercie Maël BURON, Yves DUBOIS, Malka GUILLOT, Xavier D'HAULTFŒUILLE, Mélina HILLION, Malik KOUBI, Étienne LEHMANN, Corinne PROST, ainsi que les participants du séminaire D2E/Insee.

* Département des Études Économiques - Division « Redistribution et Politiques Sociales » Timbre G210 - 15, bd Gabriel Péri - BP 100 - 92244 MALAKOFF CEDEX

Département des Études Économiques - Timbre G201 - 15, bd Gabriel Péri - BP 100 - 92244 MALAKOFF CEDEX - France -
Tél. : 33 (1) 41 17 60 68 - Fax : 33 (1) 41 17 60 45 - CEDEX - E-mail : d3e-dg@insee.fr - Site Web Insee : http://www.insee.fr

Annual and lifetime incidence of the value-added tax in France

Abstract

Consumption taxes represent on average 30% of the total tax revenu and 10% of the GDP in OECD countries. In France, the value-added tax (VAT) makes up most of consumption taxes and constitutes 50% of the state's fiscal resources, yet progress still needs to be made to fully understand its distributional impact. In particular, since savings partly serve to finance future consumption, the incidence of consumption taxes should be measured over the entire life-cycle of individuals. This has proven difficult to do because appropriate data does not exist. Consumption surveys necessary to impute taxes paid by households are cumbersome and consequently bear no panel dimension. However, repeated cross-sections for such surveys are almost always available. In this paper, I take advantage of this feature to estimate a simple parametric model for the joint dynamics of income and VAT over the life of individuals. I then use simulation methods to recover the joint distribution of permanent income and VAT. According to the estimates, permanent VAT is half less regressive than annual VAT.

Keywords: consumption dynamics, income dynamics, value-added tax, life cycle

---

Impact distributif de la TVA sur le cycle de vie

Résumé

La TVA joue un rôle majeur dans la plupart des pays de l'OCDE. En France, elle représente la moitié des ressources budgétaires de l'État. Malgré son importance, ses effets distributifs sont encore mal connus. En particulier, comme l'épargne sert en partie à financer la consommation future d'un individu, l'impact de la TVA doit être évalué sur l'ensemble du cycle de vie. Le principal obstacle à cet exercice réside dans le manque de données appropriées. La TVA étant payée par les entreprises, il n'est pas directement possible de savoir combien un ménage dépense en TVA sur une année. La TVA payée doit être imputée à partir d'informations sur la consommation des ménages, mais les enquêtes de consommation ne permettent en général pas de suivre des individus sur plusieurs années. En France, l'enquête Budget de Famille est cependant effectuée à intervalle régulier. Cette étude tire parti de cette caractéristique pour estimer un modèle simple de dynamique jointe des revenus et de la TVA payée par un ménage sur le cycle de vie. L'étude utilise ensuite des techniques de simulation pour reconstituer la distribution jointe du revenu permanent et de la TVA permanente des ménages. Selon ces estimations, la TVA serait moitié moins régressive sur l'ensemble de la vie qu'en coupe.

Mots-clés : Dynamique de la consommation, dynamique des revenus, taxe sur la valeur ajoutée, cycle de vie

Classification JEL : E21, D91, H22

1 Introduction

Consumption taxes play a major role in most OECD countries. They represent on average 30% of the tax revenue and 10% of the GDP (OECD [2014]). In France, the value-added tax (VAT) makes up most of consumption taxes, and it constitutes about 50% of the state's fiscal resources. Despite the quantitative importance of VAT in France, and despite a few existing studies (e.g. Trannoy and Ruiz [2008], Meslin [2012]), progress still needs to be made to fully understand its distributional effects. In particular, no estimation of its lifetime incidence has been undertaken to this day, even though it is now widely recognized that annual and lifetime perspectives offer useful complementary insights into the overall impact of a tax (see e.g. Fullerton and Rogers [1991]). Moreover, in the case of consumption taxes, a lifetime perspective is arguably better suited since savings serve partly to finance future consumption. A general lack of appropriate data has prevented progress in the evaluation of the lifetime incidence of consumption taxes. There exists no administrative record at the household level for those taxes, and panel data recording both consumption and income is limited to non-existent.[1] On the other hand, it is well known that using annual income as a proxy of lifetime income can lead to important life-cycle biases (see e.g. Black and Devereux [2011], Haider and Solon [2006]). In this paper, I present a method to explore the differences between annual and lifetime VAT incidence using repeated cross-section data on income and consumption, as is available in many countries.

As noted by Lyon and Schwab [1995], there are several reasons why annual and lifetime VAT incidence are expected to differ. First, annual income can be subject to important fluctuations, such as those created by bonuses or periods of unemployment. The permanent income hypothesis (PIH) stipulates that consumption (and therefore VAT paid) adjusts very little to those transitory shocks, and this has been verified in multiple empirical studies (see among many others Blundell et al. [2008]). This implies for example that a lifetime rich who experiences a bad year maintains the same consumption level, and the same is true for a lifetime poor who just happens to have a good year. When conducting a distributional analysis from annual quantities, the first individual is placed lower in the distribution of income than what permanent quantities dictate, and is assigned a relatively high amount of VAT paid, whereas the second individual is ranked higher and is assigned a relatively small amount of VAT paid. Using annual quantities therefore leads to an overestimation of the lifetime regressivity of the VAT. A second reason why this is

[1] In most countries, expenditure surveys bear no panel dimension at all. Even though there are some exceptions such as the American Consumer Expenditure Survey where individuals are re-interrogated, those surveys lack the time depth necessary for lifetime analyses (see e.g. Blundell [2014]).

the case is that income varies importantly over the life-cycle of individuals, but the tie between consumption and income is relatively loose (see e.g. Attanasio et al. [1999]). This is generally interpreted in the framework of the life-cycle theory as reflecting the fact that individuals choose their consumption level with respect to their expected future income rather than to their present income. As a result, an individual consumes a higher proportion of his income and pays relatively higher VAT whenever his income is lower than its permanent level. As before, this implies that VAT looks more regressive in cross-section than it is over a lifetime, simply because individuals are observed at different stages of their lives. One last reason why annual and lifetime VAT incidence might differ is that the structure of consumption evolves throughout life (see e.g. Aguiar and Hurst [2013]). Variations in consumption composition could lead to variations in VAT paid if tax rates vary across products. This can be the case even if consumption adjusts entirely to contemporary income.

I first study the average age trajectories of income, consumption and VAT paid by households. The shape of the income profile crucially depends on the treatment of homeowners via the inclusion of imputed rents in the resources of households. I find that income from imputed rents steadily increases over life both because the proportion of homeowners and the value of houses increase with age. For consumption, the age profile replicates the standard finding that expenditure is only loosely connected to income, even after controlling for family size (see among many others Gourinchas and Parker [2002], Fernández-Villaverde and Krueger [2007]). However, value-added tax paid by households decreases much more than consumption at older ages. I find that this is mainly driven by the fact that work-related expenditure is taxed on average at higher rates than the consumption of more essential products.[2] This divergence of consumption and VAT profiles, coupled with the surprisingly small decrease of income after retirement, is likely to create important disparities between annual and lifetime VAT incidence.

To go one step further, I build on the literature on income dynamics to estimate a simple model for the joint process of the unpredictable components of income and VAT over life (see Meghir and Pistaferri [2011] for a survey). The estimation relies on using second-order moments computed on a pseudo-panel, as first proposed by Deaton and Paxson [1994].[3] I use the estimated parameters to simulate individual lifetime trajectories of income and VAT for all households in my sample. From these trajectories, it is possible to compute lifetime VAT incidence. Overall I

[2]See Aguiar and Hurst [2013] for a complete analysis of the heterogeneity of life cycle profiles of the components of consumption.

[3]See Blundell and Preston [1998], Bourguignon et al. [2004], Blundell et al. [2008] for related uses of this idea. The paper closest to mine is Bourguignon et al. [2004] which uses first-order autoregressive models to study vulnerability to poverty with pseudo-panel data.

find that VAT is about 50% less regressive in a lifetime perspective than in a cross-sectional one.

Several papers have attempted to estimate the lifetime distributional impact of consumption taxes. Some earlier studies have essentially proposed using annual consumption as a proxy for permanent income (Davies [1960], Poterba [1989]), assuming that the PIH is verified.[4] Other studies have relied on simulations based on theoretical models, such as Davies et al. [1984] who simulate a lifecycle model derived from utility maximization for a number of taxes in Canada. Caspersen and Metcalf [1994] have employed a two-step procedure, based on the joint use of the American Panel Study of Income Dynamics (PSID) and of the Consumer Expenditure Survey (CEX), estimating permanent income in the PSID on the basis of observables that are common to both datasets, and then using these estimates to impute permanent income in the CEX. The paper closest to mine in spirit is probably Lyon and Schwab [1995], who restrict their analysis to taxes on alcohol and tobacco, the consumption of which is reported directly in the PSID, which enables them to simply estimate a panel model to predict income, consumption, and tax profiles with age. All those studies generally report that consumption taxes measured over the lifecycle are less regressive than when measured annually, an exception being cigarette taxes in Lyon and Schwab [1995] which have the same lifetime and annual level of regressivity.

This paper improves on those studies in a number of ways. I do not need to assume that individuals behave entirely according to a lifecycle model such as in some of the earliest studies in this field. By using the same dataset for income and consumption, I am able to explore the link between consumption and income even when it is not explained by observables. As observables typically explain only a small part of the income distribution, I obtain much more reliable estimates. Finally, unlike Lyon and Schwab [1995], I am able to provide estimates for the most important taxes on consumption, not only for those on tobacco and alcohol. The rest of this paper is organized as follows. Section 2 presents the main features of the French value-added tax, section 3 presents the data used in this study, section 4 introduces the method used in the paper in more details, sections 5 and 6 present my results, and section 7 concludes.

2 The value-added tax in France

From the point of view of the end consumer, a value-added tax (VAT) is very similar to a regular sales tax. As of 2015, the normal VAT rate applicable to most goods and services in France is

[4] On the other hand, Blundell and Preston [1998] have given a number of reasons why annual consumption might be a poor indicator of lifetime welfare.

20%, but there also exists 3 lower rates and some exemptions which are summed-up in Table 1.[5] VAT exemptions are mostly comprised of rents and health services. The lowest rate is the so-called super-reduced rate, which is set at 2.1%. It concerns a very small fraction of expenditure, composed mainly of newspapers and drugs covered by the social security. Next is the reduced rate set at 5.5%, which is quite important since it primarily concerns food consumption which makes up almost 20% of total expenditure. Finally, the intermediate rate set at 10% covers a wide range of products, including domestic services, hotels and restaurants, and cultural goods and services (books, concerts, theater or cinema tickets,...). Which product falls in which tax category can be very specific. For example in the case of restaurants, eat-in meals are taxed at the intermediate 10% rate whereas take-out food is taxed at the 5.5% reduced rate. Other very fine distinctions include vegetable fats such as margarine (normal rate) vs. animal fats such as butter (reduced rate), or candy (normal rate) vs. chocolate-based candy (reduced rate).

In this paper, I impute VAT paid by households using consumption data for the period 1984-2011. The value-added tax underwent substantial changes over this period, which are reported in Appendix Table 3. The most important modification was the suppression in 1992 of the increased rate applied to luxury products (including cars, musical instruments, perfumes,...). I abstract from these changes by imputing VAT using a unique tax structure, namely that applicable in 2015. Using variable rates would create year-specific fluctuations in VAT that would induce a bias in our estimation of lifetime trajectories. The limit to this approach is that it ignores demand shifts due to changes in VAT rates.

3 Data

There exists no data recording VAT paid by households, because in practice the value-added tax is paid directly by firms. VAT paid can however be imputed to households from sufficiently detailed consumption data. To do so, I use the Enquête Budget de Famille (BDF), the French consumer expenditure survey. The BDF is conducted by the French statistical institute every 5 or 6 years since 1979 on a representative sample of about 10,000 households. All individuals in the interrogated households fill-in a consumption diary over one or two weeks,[6] from which the statistical institute computes consumption of non-durable goods and services over the year. Two interviews are also carried out to infer annual durables expenditure. Overall, the survey

[5] Corsica and French overseas departments are subject to specific rules. They are excluded from this study.

[6] The period over which individuals have to fill-in their consumption diaries lasted 14 days prior to 2000 and has been shortened to 7 days since 2000.

Table 1: Budget shares of main consumption items

	Budget share
No VAT	5.2
Health services	45.5
Education	21.7
Gambling	17.7
FISIM	10.2
Super-reduced rate	1.7
Newspapers and magazines	62.9
Drugs	37.1
Reduced rate	20.0
Food at home or take-away	97.2
Medical equipement	2.8
Intermediate rate	16.1
Domestic services	20.1
Food in restaurants	19.7
Rereational and cultural services ; books	18.6
House maintenance	12.8
Transportation services	12.7
Hotels	12.0
Utilities (i)	4.1
Normal rate	53.2
Vehicle maintenance and fuel	22.0
Clothing	11.8
Utilities (ii)	10.1
Vehicules	10.1
Non-durable household equipement	6.2
Durable household equipement	5.2
Personal care	4.8
Durable leisure equipement	7.1

Note: the table reports the average share of consumption devoted to each tax category. For each tax category, the table then reports the main products comprising expenditure devoted to this tax category along with the associated budget share in that category.

provides annual consumption for interviewed households at a very detailed level, with 300 to 900 expenditure categories depending on the survey wave. In addition, the data contains detailed information on the financial resources of households, including their annual earnings, income from social transfers, taxes paid and imputed rents for homeowners.[7] I use the six waves of the survey that took place between 1984 and 2011.[8] I adjust all amounts relating to income to 2011 euros using the GDP deflator. For consumption, it is necessary to account for relative

[7]The information on imputed rents is not available before the year 2000. For previous waves, I impute rents to households who own their house using the simulated residuals method. This is the method used by the statistical office for later waves.

[8]These six waves correspond to the years 1984, 1989, 1995, 2000, 2006 and 2011.

changes in the price of different products. Relative price changes could lead to artificial VAT fluctuations that would be a source of bias later on. I use the product-specific deflators available in the household consumption accounts to adjust expenditure to 2011 prices. French national accounts report household consumption and price deflators for about 100 expenditure categories which correspond to the United Nations' Classification of Individual Consumption According to Purpose (COICOP).[9] The BDF expenditure classes can generally be matched to a COICOP category unambiguously.

As many expenditure surveys, the BDF suffers from significant measurement error.[10] On average, BDF consumption only covers about 75% of national accounts consumption. This coverage rate varies by product and by year, which could be problematic for the rest of the analysis. Differential trends in measurement error by product category could lead to spurious trends in VAT paid by households. To avoid this, I calibrate BDF expenditure on national accounts expenditure for each product. I then match every expenditure category in the BDF data to the corresponding VAT rate and compute annual VAT paid for each household. I also calibrate the income data on household income accounts for consistency,[11] and define the disposable income of a household as the sum of earnings, social transfers and imputed rents for homeowners, minus the income and housing taxes. Finally, I restrict the final sample by keeping households whose head is aged 26 to 70 at the date of the interview. I also impose that each cohort should be observed at least in two different survey waves.[12] The final sample contains 44,636 households.

4 Methodology

Individual income and VAT age trajectories are not easily recovered from the available data since households are only observed once, and since most of the evolution of income, consumption and VAT over life cannot be predicted from the observable characteristics of individuals. I proceed in two steps. First, I study the average age trajectories of income, consumption and VAT for households in my sample. I then compute the individual deviations from these average trajectories, which constitute the parts of income, consumption and VAT that cannot be predicted

[9]See http://unstats.un.org/unsd/cr/registry/regcst.asp?Cl=5 for details.

[10]See Carroll et al. [2015] for a comprehensive treatment of the question of misreporting in expenditure surveys.

[11]This is easily doable for social transfers income and imputed rents which have equivalents in households accounts. Earnings in BDF income do not have a direct counterpart in households' income accounts, because the Contribution Sociale Généralisée (CSG), an important tax in France, is considered a social contribution in household surveys, but an income tax in national accounts. Instead, I calibrate net of tax earnings in BDF on net of tax earnings in national accounts.

[12]Cohorts are formed of individuals born the same year.

from observables. I estimate a simple model for the dynamics of these unpredictable components to recover the key parameters governing their evolution. I simulate these evolutions over the life of all households in the sample in order to infer the joint distribution of lifetime income and VAT.

In the initial data, average age effects are mixed with cohort and year effects. In addition, since all quantities are measured at the level of the household, age effects are also interlaced with household size and composition effects. In order to single out the effects attributable to age, I estimate the following model:

$$y_{it} = \beta_0^y + \beta_1^y \text{cohort}_i + \beta_2^y \text{age}_{it} + \beta_3^y \text{year}_t + \beta_4^y \text{family}_{it} + \epsilon_{it}^y \tag{1}$$

where y_{it} denotes the logarithm of the outcome of interest (income, consumption or VAT paid) for household i at period t, cohort_i is a vector of 50 year of birth dummies for cohorts born from 1920 to 1980, age_{it} is a vector of 44 age dummies for ages 27 to 70, year_{it} is a set of 5 year of observation dummies, and family_{it} is a full set of controls for household composition. Specifically, family controls include the number of adults in the households (not counting the primary earner), and the number of children aged below 18, below 14, below 6 and below 2. It is well known that model (1) cannot be identified without further assumptions, because there exists a linear relationship between cohort, age and year dummies. This is because the age of a cohort can be inferred from its year of birth and the year of observation. However, identification can be achieved by imposing a proper normalization of year effects. As suggested by Deaton [1997], I do so by requiring that year effects sum to zero and be orthogonal to a time trend, which mechanically attributes the time trend to cohort effects. This constraint can be directly embedded in (1) by replacing the year dummies by normalized year dummies (see Appendix A for details).

The second step towards the estimation of lifetime incidence of the VAT is to go beyond average age trajectories and estimate individual trajectories for income and VAT. This is not directly possible given the limitations inherent to the available data on income and consumption. For example, since panel data is unavailable, it is not possible to estimate household fixed effects. Instead, I model the dynamics of the residual from the estimation of (1), which constitutes the unpredictable component of income (or VAT). I estimate the parameters of the unpredictable components' processes, and then rely on simulations of these processes to recover the joint distribution of income and VAT over the life-cycle. As noted by Deaton and Paxson [1994], inference on the dynamics of the residuals can be made using repeated cross-section data by relying on moments computed over fixed-membership groups. Because income shocks are correlated to VAT shocks through consumption, both processes need to be modeled jointly. I assume the following VAR(1) model:

$$\begin{cases} r_{ijt} &= \beta_0^r + \beta_1^r \text{cohort}_{ij} + \beta_2^r \text{age}_{ijt} + \beta_3^r \text{year}_t + \beta_4^r \text{family}_{ijt} + \epsilon_{ijt}^r \\ c_{ijt} &= \beta_0^c + \beta_1^c \text{cohort}_{ij} + \beta_2^c \text{age}_{ijt} + \beta_3^c \text{year}_t + \beta_4^c \text{family}_{ijt} + \epsilon_{ijt}^c \end{cases} \tag{2}$$

$$\begin{pmatrix} \epsilon_{ijt}^r \\ \epsilon_{ijt}^c \end{pmatrix} = \begin{pmatrix} \rho_{jt}^r \epsilon_{ijt-1}^r \\ \rho_{jt}^c \epsilon_{ijt-1}^c \end{pmatrix} + u_{ijt} \tag{3}$$

$$u_{ijt} = \begin{pmatrix} u_{ijt}^r \\ u_{ijt}^c \end{pmatrix} \sim \mathcal{N}\left(0, \Sigma_{jt}\right) \text{ with } \Sigma_{jt} = \begin{pmatrix} v_{jt}^{u_r} & v_{jt}^{u_r u_c} \\ v_{jt}^{u_r u_c} & v_{jt}^{u_c} \end{pmatrix} \tag{4}$$

where j denotes the fixed-membership group comprising household i. In practice I use the household head's year of birth to define such groups. ϵ_{ijt}^r (resp. ϵ_{ijt}^c) are the residuals from the estimation of (1) for income (resp. VAT). The set of parameters to be estimated is $\left\{\rho_{jt}^r, \rho_{jt}^c, v_{jt}^{u_r}, v_{jt}^{u_c}, v_{jt}^{u_r u_c}\right\}_{jt}$. In the absence of panel data, model (3)-(4) cannot be estimated as such, because the lags of the residuals for household i are unknown. However, taking the variance and covariance of (3) among all households belonging to cohort j on year t, we get:

$$\begin{cases} v_{jt}^{\epsilon_r} &= {\rho_{jt}^r}^2 v_{jt-1}^{\epsilon_r} + v_{jt}^{u_r} \\ v_{jt}^{\epsilon_c} &= {\rho_{jt}^c}^2 v_{jt-1}^{\epsilon_c} + v_{jt}^{u_c} \\ v_{jt}^{\epsilon_r \epsilon_c} &= \rho_{jt}^r \rho_{jt}^c v_{jt-1}^{\epsilon_r \epsilon_c} + v_{jt}^{u_r u_c} \end{cases} \tag{5}$$

where $v_{jt}^{\epsilon_r \epsilon_c}$ denotes the covariance of ϵ_{ijt}^r and ϵ_{ijt}^c. Not all equations defined by (5) correspond to observable moment conditions, because the BDF data is only available every 5 or 6 years. Instead, (5) provides us with recurrence relations that can be used to compute predicted moments at any observation year (excluding the first one) from parameter inputs. This means that finding an acceptable set of parameters using (5) is possible in practice, through numerical optimization. (5) is strongly under-identified since it defines 5 new parameters every year, whereas we can only write 3 moment conditions every 5 or 6 years, for each cohort. With 61 cohorts over 27 years (with only 5 usable data years), this would require the estimation of 8,235 parameters from 594 moment conditions.[13] The age-dependency of these parameters is our main interest here, so a way

[13] This is less than $5 \times 61 \times 3 = 915$, because not all cohorts are observed at all years. I only impose that a cohort be observed for at least two years to include it in the sample.

to reduce dimensionality is to impose that $\rho^r_{jt} = \rho^r_{a_{jt}}$ (and similarly for the other 4 parameters), where a_{jt} is the age of cohort j at time t. With ages spanning from 26 to 70, this reduces the number of parameters to 220. Although theoretically the model becomes highly over-identified, solutions are hard to reach in practice because of the high dimensionality and nonlinearity of the problem. Restricting the number of parameters further produces more reliable estimates, while at the same time providing coarser descriptions of the unpredictable components' processes. Empirically I find that an acceptable compromise is to allow for 5 different parameter sets (25 parameters), imposing that age parameters be constant over ages 26-34, 35-43, 44-52, 53-61 and 62-70. I provide evidence below that this restricted version of the model can still account for the important evolutions of income and VAT variances over life.

Finally, it should be noted that all the parameters in (5) are subject to some constraints. Specifically, (i) the autoregressive coefficients ρ^r_{jt} and ρ^c_{jt} have to be between 0 and 1, (ii) the variances $v^{u_r}_{jt}$ and $v^{u_c}_{jt}$ should be positive, and (iii) the correlation between u_r and u_c must be between -1 and 1, so that $|v^{u_r u_c}_{jt}| \leq \sqrt{v^{u_r}_{jt} v^{u_c}_{jt}}$. The estimation of (5) yields a set of parameters $\{\widehat{\rho}^r_a, \widehat{\rho}^c_a, \widehat{v}^{u_r}_a, \widehat{v}^{u_c}_a, \widehat{v}^{u_r u_c}_a\}_{a\in[26,70]}$ from which it becomes possible to simulate lifetime trajectories of income and VAT for each household in the sample. To do so, I constitute a database with one line for each household and each age between 26 and 70. For each household i at each age a, I draw a random shock to income and VAT $(\tilde{u}^r_{ia}, \tilde{u}^c_{ia})'$ in a multivariate normal distribution with covariance matrix $\widehat{\Sigma}_a$, with:

$$\widehat{\Sigma}_a = \begin{pmatrix} \widehat{v}^{u_r}_a & \widehat{v}^{u_r u_c}_a \\ \widehat{v}^{u_r u_c}_a & \widehat{v}^{u_c}_a \end{pmatrix}$$

I then calculate the full trajectory of the unpredictable components of income and VAT $(\tilde{\epsilon}^r_{ia}, \tilde{\epsilon}^c_{ia})_{a\in[26,70]}$:

$$\begin{cases} \tilde{\epsilon}^{r,c}_{i26} = \tilde{u}_{i26} \\ \tilde{\epsilon}^{r,c}_{ia} = \widehat{\rho}^{r,c}_a \tilde{\epsilon}^{r,c}_{ia-1} + \tilde{u}^{y,c}_{ia} \text{ for } a \geq 27 \end{cases}$$

I also compute the predicted values of income and VAT from the estimation of (1). Since each household is only observed once, its composition at every age is not known. Some assumption has to be made regarding the evolution of the structure of households with age. For each age a, I attribute to each household the average demographic characteristics of households whose head is aged a in the original sample. Under this assumption, it becomes possible to compute the predicted component of income and VAT for all observations, and to recover total simulated income for each household at each age as the sum of the predicted and simulated unpredictable component. This database is the one I use for the analysis of lifetime VAT incidence conducted in section 6.

In a related paper, Bourguignon et al. [2004] model the unpredictable component of income as an AR(1) process to study the dynamics of poverty using repeated cross-sections. They are able to compare their findings with results obtained from panel data, and conclude that the simple AR(1) form captures most of the important dynamics of income. At this stage, it is still unclear whether model (3)-(4) can account for the main evolutions of the unpredictable components of income and VAT. A way to gain some insight into this question is to compare the empirical and simulated age trajectories of the variance and covariance of income and VAT. To do so, I compute the variance of ϵ^r_{it}, ϵ^c_{it} and the covariance between both residuals within each age group in the original data. I proceed similarly for the simulated quantities $\tilde{\epsilon}^{r,c}_{ia}$, and then plot these quantities by age in Figure 1. As it turns out, observed and simulated variance age trajectories are quite close to each other in all three panels, which indicates that the model seems to perform quite well. This suggests that even if income and VAT residuals did not behave according to model (3)-(4), it might be hard to discriminate between this model and a better one solely on the basis of available information.

5 Income, consumption and VAT age trajectories

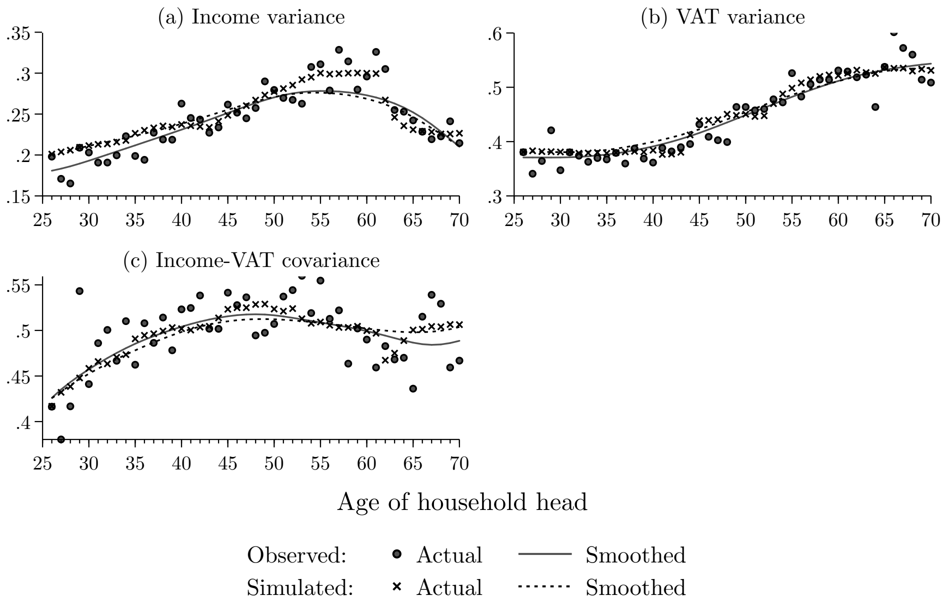
In this section, I explore the average trajectories of income, consumption and VAT over the life of individuals derived from model (1).[14] Doing so provides preliminary insights into what the potential differences between annual and lifetime VAT incidence might be. In particular, how much the evolutions of consumption and VAT over life are connected to that of income will be one of the key driving forces of those differences. The objective of this section is to investigate the extent to which this is the case.

5.1 Income age profiles

To begin with, Figure 2 plots the value of the coefficients on each age indicator obtained from the estimation of model (1) for income. The figure first reveals that income rises sharply by about .22 log points (25%) between ages 26 and 40. It is then fairly stable until age 60 when it starts to rise again, increasing steadily by .1 log points until age 70. It is well documented that income

[14] As family composition effects are filtered away, this analysis considers the case of a household comprised of a single individual under the assumption that age trajectories do not depend on household composition.

Figure 1: Observed and simulated variance-covariance of the unpredictable components



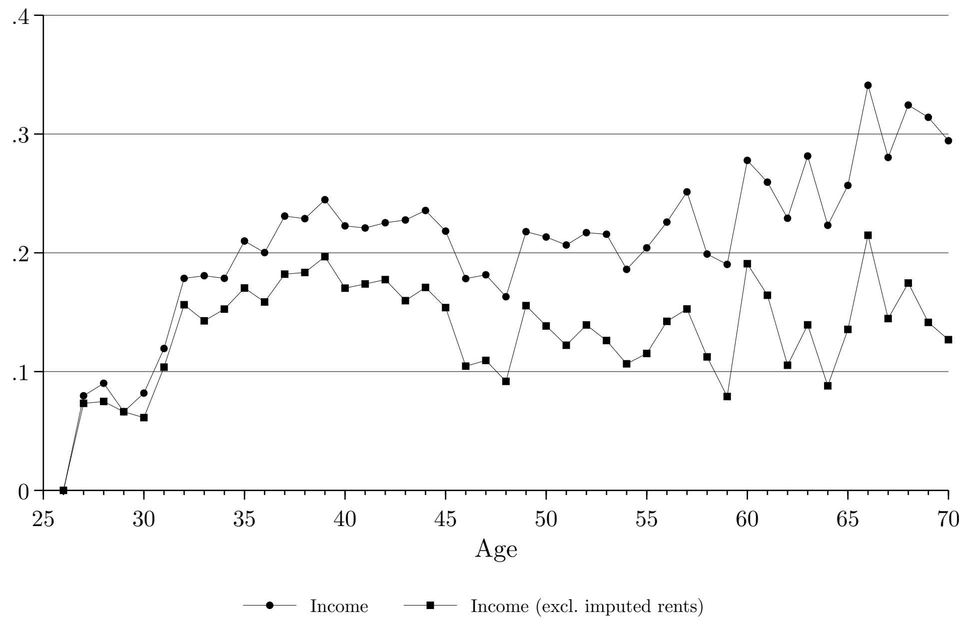
Note: for each age, the dots in panel (a) (resp. (b)) plot the variance of the residuals of a model regressing log-income (resp. log-VAT) on a full set of controls for age, cohort, year of observation and family composition, for households observed at that age. The solid line is a lowess smoother of the dots. Panel (c) plots the covariance between the income and VAT residuals for each age. The x plot the same variance-covariances but for households in the simulated data, where income and VAT age trajectories are simulated using the parameters estimated with model (5). The dotted line is the lowess smoother for the x.

rises over the first 20 to 25 years of an individual's work life, and then starts to decrease after individuals retire (see e.g. Carroll and Summers [1991]). The pattern revealed by Figure 2 until age 60 is in line with this, but what we observe after 60 is quite unexpected. In France, 60 is the age at which individuals can start to cash out their public pensions, and consequently it is the age at which most workers retire.[15] French public pensions provide individuals with on average 75% of their pre-retirement income (COR [2013]). We would therefore expect to see a decrease in disposable income after retirement, even though this decrease could be less than 25% since it may be partly absorbed by a reduced income tax. To understand what might be at the bottom of this unexpected result, Figure 3 reproduces this analysis separately for the different income sources, namely earnings (net of contributions and income tax), social transfers, and imputed

[15]Individuals receive a pension that is proportional both to the duration of their contribution to the system and to their earnings. In addition, individuals who have not yet attained a statutory minimum contribution length receive a discounted amount. The discount is canceled if individuals wait until age 65 to retire. Consequently, a second retirement peak takes place at 65.

rents.

Figure 2: Average income age profile

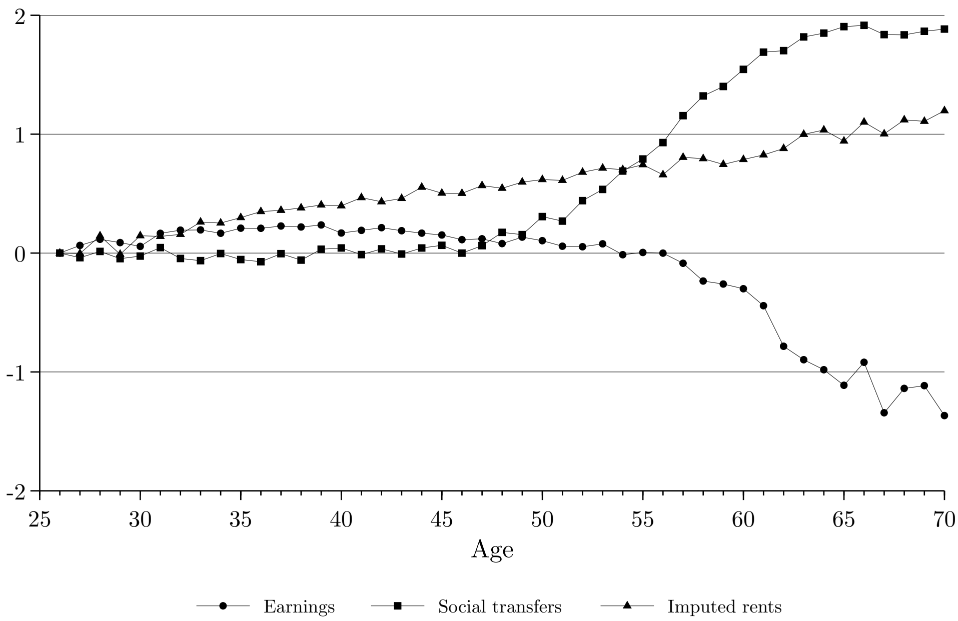


Note: the figure plots the age dummies' coefficients obtained when regressing the logarithm of (i) household disposable income and (ii) disposable income excluding imputed rents, on a set of age dummies, controlling for cohort, year of observation, and household composition effect, such as in model (1). Source: BDF, 1984-2011, Insee.

Figure 3 first reveals that average net of tax earnings rise regularly by about .2 log points (22%) over ages 26 to 40, and then decrease slowly until age 55. At 55, average earnings are back at their initial level and start to decrease more rapidly, by -1 log points (65%) up to age 70. Meanwhile, income from social transfers is roughly consistent up to age 50, when it starts to rise rapidly by 2 log points until age 65, and then stabilizes at 7.4 times its initial level. A number of professions are allowed to retire earlier than 60,[16] causing average earnings to decrease and average social income to increase from 50 onwards. Figure 3 also shows the average age-profile of imputed rents for homeowners. Income from this source increases steadily over life, by about 1.1 log points between ages 26 and 70, which corresponds to a multiplication by 3. This continuous rise of imputed rents could be driving the increase of average income after age 60 observed in Figure 2. To be sure, Figure 2 also plots the average age trajectory obtained when

[16] This is most notably the case for military personnel, national railways employees, workers in the energy sector, and workers with disabilities. Special cases also exist for some public sector employees (for jobs belonging to the so called active categories).

Figure 3: Average age profiles for various income components



Note: the figure shows the age dummies' coefficients obtained when regressing the logarithm of (i) household earnings, (ii) social transfers income, and (iii) imputed rents, on a set of age dummies, controlling for cohort, year of observation, and household composition effect, such as in model (1). Source: BDF, 1984-2011, Insee.

we exclude imputed rents from our definition of disposable income. Disposable income with this new definition rises sharply between ages 26 and 40 by about .2 log points, and then decreases slightly to stabilize at around .15 log points above its initial value. Excluding imputed rents from the definition of disposable income largely eliminates the unexpected rise in income witnessed after age 60.

Different mechanisms might entail the increase in average imputed rents with age. It could be that the likelihood of becoming a homeowner increases over the life of individuals, but another explanation may be that individuals tend to live in more expensive houses as they age. A basic mechanism through which this would operate is if couples move to bigger homes when they start having children, but are reluctant to move back to smaller homes when their children leave the family residence. To test this, Figure 9 in Appendix B plots the age dummies coefficients obtained from the estimation of (1) when considering as outcomes (i) a dummy indicating that household i owns its house and (ii) the log of the surface of its dwelling. The figure confirms that the proportion of homeowners increases with age, by about .7 log points. The proportion of homeowners doubles over the life of individuals. As it turns out, the surface of the residence also tends to increase steadily over life by about 80% even when controlling for family size.[17]

5.2 Consumption and VAT profiles

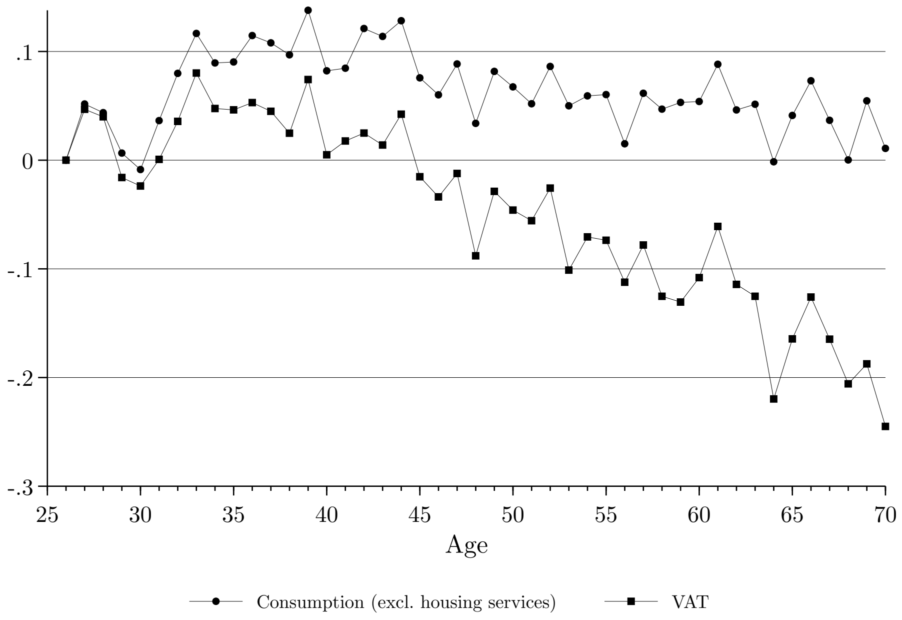
Disposable income decreases little after retirement. The next question becomes whether the same pattern is observed for consumption and VAT. To do so, Figure 4 plots the value of the coefficients on each age indicator obtained from the estimation of model (1) for consumption and VAT successively. Figure 4 first reveals that consumption follows a profile that is quite similar to that of income over the life of individuals. It first rises by about .1 log points (11%) over ages 26 to 45, and then decreases slowly by .05 log points (5 percentage points) until age 70. This is in line with the well-documented fact that consumption is slightly hump-shaped over life. This bump is about half the size of that of income in relative terms. The next question then becomes whether we observe the same pattern for VAT. As it turns out, Figure 4 shows that VAT also increases slightly by about .05 log points over the first 15 years of an individual's work-life. However, unlike consumption, it then decreases steadily by .25 log points until age 70. If all consumption was taxed at the same rate, any relative increase in consumption would lead to the same relative increase in VAT, and as a result VAT and consumption profiles would mechanically coincide. In other words, the differences between consumption and VAT profiles can be fully attributed to changes in budget shares devoted to products taxed at different rates. To investigate this further, Figure 5 replicates the analysis for consumption directed towards products in each VAT category separately.

Figure 5 reveals important disparities in the evolution of consumption. On the one hand, the consumption of products taxed at the normal and intermediate rates is largely decreasing over life, by about -.3 log points (23%) and -1.3 log points (76%) respectively over ages 26-70. On the other hand, the consumption of products taxed at reduced or super-reduced rates, or not taxed at all, increases regularly over life. Respectively, consumption of these products increases by 1 log point, .3 log points, and .8 log points. To understand what is causing these evolutions, Table 1 reports which products make up most of consumption in each tax category, along with the associated average budget shares.[18] For the three tax categories associated with increasing consumption over life, the most important item by far is food at home or away, which is taxed at the reduced rate. Consumption of health services (not taxed) and newspapers and magazines

[17] See e.g. Ménard and Volat [2012] for a short analysis of housing conditions in France.

[18] Housing services are excluded from this analysis. Rents or imputed rents are not subject to VAT.

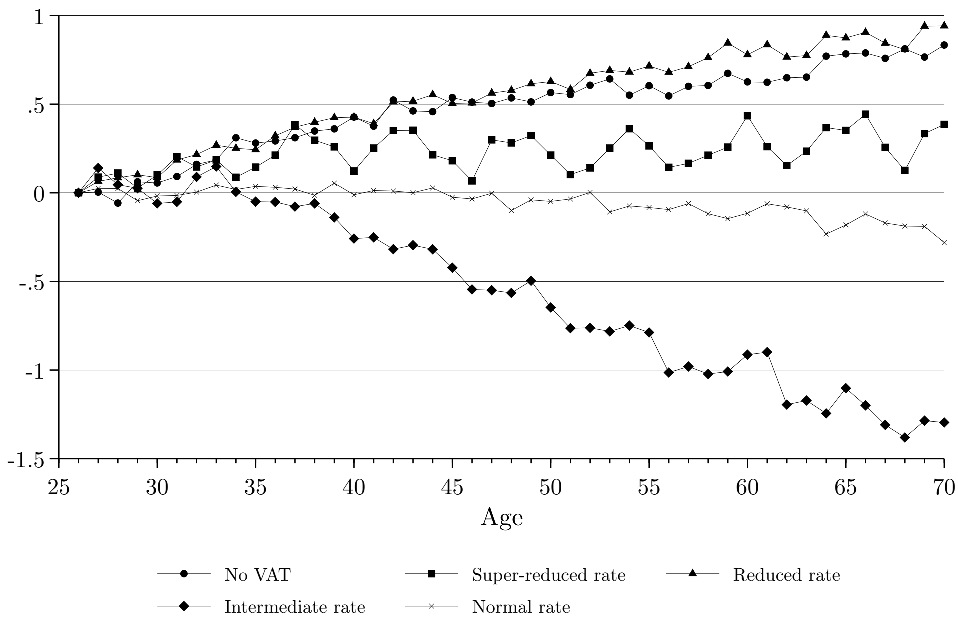
Figure 4: Average consumption and VAT age profiles



Note: the figure plots the age dummies' coefficients obtained when regressing the logarithm of (i) household consumption and (ii) VAT paid, on a set of age dummies, controlling for cohort, year of observation, and household composition effect, such as in model (1). Source: BDF, 1984-2011, Insee.

(taxed at the super-reduced rate) make up most of the rest of expenditure devoted to these tax categories. The evolution of food consumption is therefore key in understanding the increase in consumption of low taxed products over life. To be sure, Figure 6 plots the age profiles of food, health services, and newspapers consumption. The figure first shows that as individuals age, their consumption of medical services increases steadily, by about 1.2 log points. This is largely expected, and is the main explanatory factor of the increase in the consumption of zero-taxed products put forward by Figure 5. Figure 6 also shows that food consumption increases regularly over life, by about .8 log points. This is clearly the explanation behind the evolution of reduced-rate consumption described by Figure 5, but at this stage it is unclear why consumption of food at home or to take away should more than double over life. Further investigation actually shows that consumption of take-away food decreases over life, but that this is more than compensated by an increase of food consumed at home (not reported). A potential explanation for these trends is that there might be a substitution of food at home for food consumed in restaurants. This could be partly driven by the fact that individuals who work are likely to take their lunch in a restaurant, whereas individuals who do not work are likely to take their lunch at home.

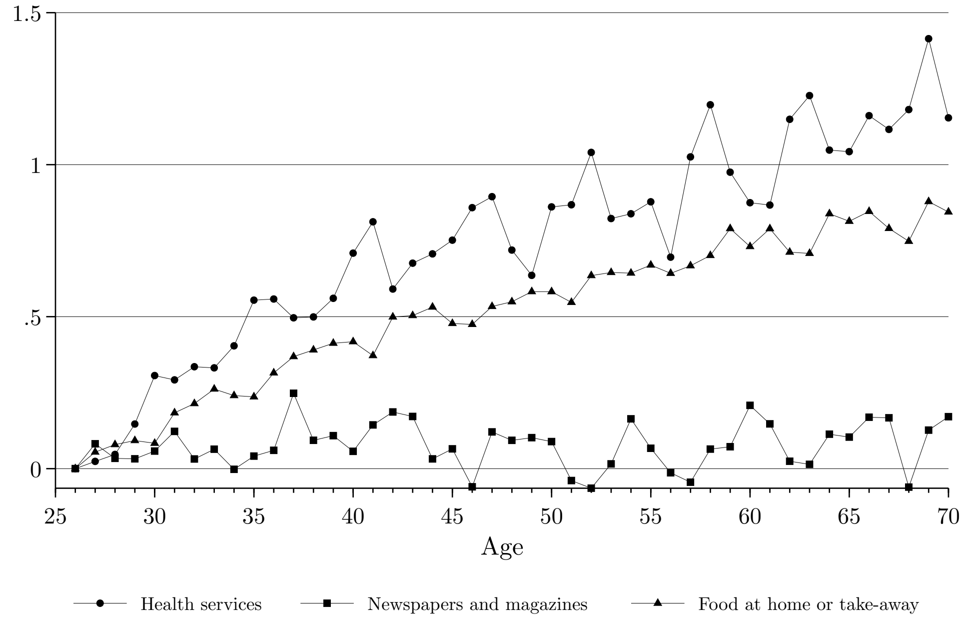
Figure 5: Average age profiles for consumption by VAT categories



Note: the figure plots the age dummies' coefficients obtained when regressing the logarithm of consumption devoted to each VAT category, on a set of age dummies, controlling for cohort, year of observation, and household composition effect, such as in model (1). Source: BDF, 1984-2011, Insee.

To test this, Figure 7 plots the evolution of the consumption of food in restaurants, which is taxed at the intermediate rate. To go one step further, it also reports the evolution of the two other top product categories comprising intermediate rate consumption, namely domestic services and recreational or cultural services. Figure 7 first reveals that consumption of food in restaurants decreases significantly by about -2.5 log points (90%) over life. As hypothesized earlier, individuals take less of their meals outside and more of their meals at home as they age. Consumption of domestic services also decreases sharply over life, by about -3.5 log points. This is somewhat surprising as older people typically require more assistance or personal care. However, further investigation shows that 70% of domestic services expenditure is actually related to child care. The analysis conducted here controls for family size, but assumes that age trajectories are independent of family composition. The fact that the consumption of child care services decreases even for a household comprised of a single individual reflects this assumption, and the limit of this econometric model. The last important item in intermediate rate expenditure is recreational and cultural services, the consumption of which stays roughly constant over life. Overall, the decrease in intermediate rate consumption witnessed in Figure 5 can be mainly attributed to a

Figure 6: Age profiles for the main components of consumption by VAT category: zero to reduced rates

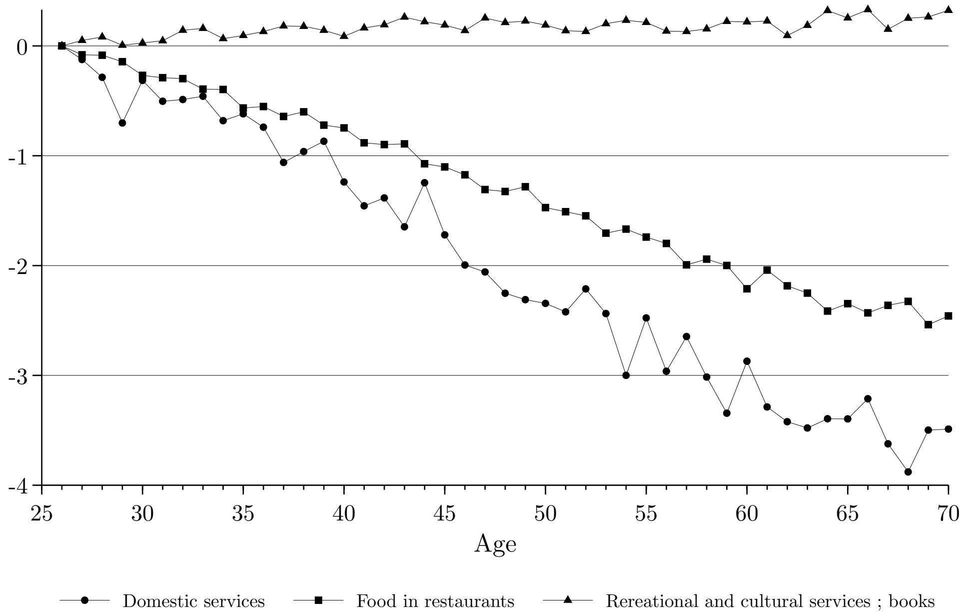


Note: the figure plots the age dummies' coefficients obtained when regressing the logarithm of consumption devoted to (i) health services, (ii) newspapers and magazines, and (iii) food at home or to take-away, on a set of age dummies, controlling for cohort, year of observation, and household composition effect, such as in model (1). Source: BDF, 1984-2011, Insee.

decrease in food taken in restaurants, which is substituted by food at home. By operating this substitution, households effectively replace the consumption of an intermediate rate product by a reduced rate product.

So far we have concentrated on explaining the evolutions of the consumption of products taxed lower than the normal rate. However, products taxed at the normal rate make up most of consumption, and namely constitute 53.2% of the budget of households on average. Understanding the slight decrease in normal rate consumption is therefore also important in interpreting the discrepancy between consumption and VAT profiles. To do so, Figure 8 plots the evolution of the three main product categories taxed at a normal rate, namely vehicle maintenance and gas, clothing, and some utilities. The figure first shows that the amount spent by individuals to service and run their car is roughly constant until age 50 and then decreases slightly by -.4 log points over ages 50-70. Money spent on clothes follows a similar pattern, decreasing by around -.8 log points over ages 45-70. By contrast, utility consumption increases steadily over life, by about .5 log points. As Aguiar and Hurst [2013] point out, an interpretation for these trends

Figure 7: Age profiles for the main components of consumption by VAT category: intermediate rate



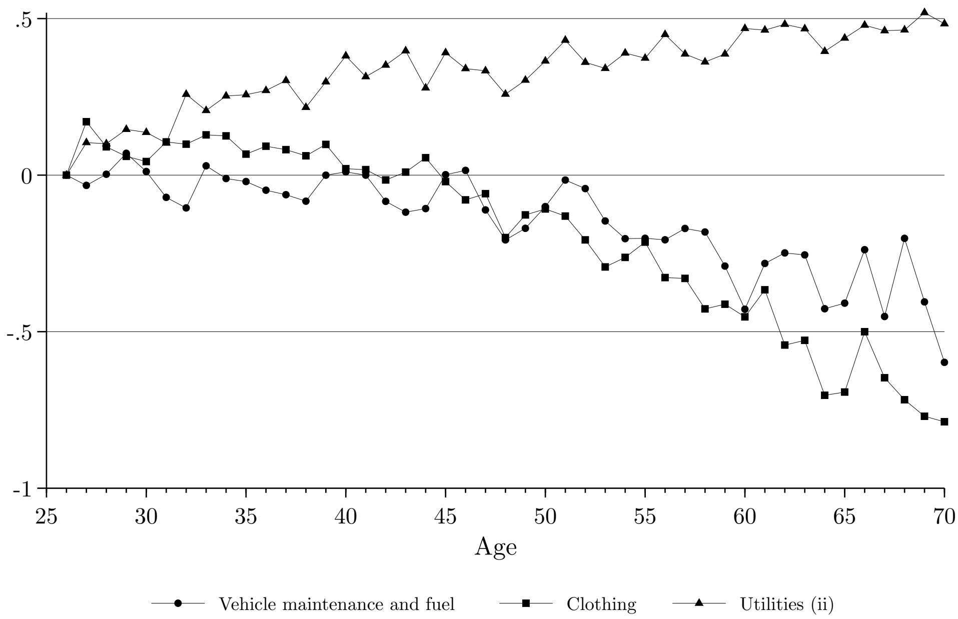
Note: the figure plots the age dummies' coefficients obtained when regressing the logarithm of consumption devoted to (i) domestic services, (ii) food in restaurants, and (iii) recreational or cultural services and books, on a set of age dummies, controlling for cohort, year of observation, and household composition effect, such as in model (1). Source: BDF, 1984-2011, Insee.

could be that owning a car and renewing a wardrobe are essentially work-related expenditures. As individuals age and start to retire, work-related consumption begins to decrease. Because work-related products such as clothing and restaurant lunches are more taxed on average than essential products such as food or medical services, VAT paid decreases more rapidly than expenditure after retirement, as shown by Figure 4. This trend is important, because it reveals a significant divergence between income and VAT paid at the end of the life. This could be the source of an important lifecycle bias in cross-sectional VAT incidence.

6 Incidence of the VAT

The previous section explored the average life-cycle trajectories of income and VAT. Because VAT paid decreases more substantially than income after individuals retire, older individuals benefit from an income level that is roughly comparable to the average income level they enjoy over their life, while at the same time paying much less VAT. In this scenario, a substantial part

Figure 8: Age profiles for the main components of consumption by VAT category: normal rate



Note: the figure plots the age dummies' coefficients obtained when regressing the logarithm of consumption devoted to (i) vehicle maintenance and fuel, (ii) clothing, and (iii) some utilities, on a set of age dummies, controlling for cohort, year of observation, and household composition effect, such as in model (1). Source: BDF, 1984-2011, Insee.

of the regressivity of VAT in cross-section could be linked to life-cycle dynamics. In this section, I build on the method presented in section 4 to investigate the extent to which VAT incidence in a cross-section and on the life-cycle differ.

To do so, Table 2 reports the cumulative income and VAT shares supported by individuals in each income quintile, as well as the corresponding Suits index for VAT. The Suits index (see Suits [1977]) is obtained by comparing the generalized Lorenz curves formed by income and VAT, when individuals are ordered by income. The index takes value -1 in the case of extreme tax regressivity, when a group of individuals in the economy earns 0% of the income and pays 100% of the tax, and takes value 1 in the opposite case where the single richest individual pays 100% of the tax. The Suits index is 0 when every individual contributes to the tax burden exactly in proportion of their resources. This is the situation where, if a group of individuals receives $x\%$ of the total income in the economy, then they pay $x\%$ of the total tax burden.

Columns (1)-(2) report these statistics obtained for the original sample. The rest of the table reports statistics computed using the simulated sample constructed as described in section 4.

Standard errors are obtained by bootstrap. For each iteration, I proceed as follows. I first draw a sample with replacement from the original data, stratified by year of birth and year of observation. I compute the set of statistics in columns (1)-(2) for this bootstrap sample. I then follow the method described in section 4 in order to simulate income and VAT at each age for all household in the bootstrap sample. Finally I compute the statistics reported in columns (3)-(5) using this simulated sample.

Table 2: Cumulative shares of income and VAT by income quintile, and Suits index

	Original sample		Simulated cross-section		Simulated lifetime	
	Income	VAT	Income	VAT	Income	VAT
1	9.0	12.4	8.9	12.0	14.3	16.3
	(0.0)	(0.1)	(0.1)	(0.2)	(0.7)	(0.4)
2	22.8	27.8	22.4	27.9	31.6	34.9
	(0.1)	(0.2)	(0.2)	(0.4)	(1.2)	(0.6)
3	40.8	46.5	39.9	46.8	51.1	54.8
	(0.1)	(0.2)	(0.2)	(0.5)	(1.3)	(0.7)
4	63.6	69.1	63.0	69.3	73.1	76.2
	(0.1)	(0.2)	(0.2)	(0.4)	(1.1)	(0.6)
5	100.0	100.0	100.0	100.0	100.0	100.0
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)
Suits index	-0.0874		-0.0980		-0.0523	
	(0.0026)		(0.0080)		(0.0187)	

Note: for each income quintile, the table shows the cumulative share of income received and VAT paid by households belonging to this quintile. The table also reports the Suits index for VAT. Columns (1)-(2) are obtained from the original data, columns (3)-(4) shows statistics obtained with the simulated data, but keeping households only at the age of the head when they are actually observed in the data, and columns (5)-(6) report statistics computed for lifetime quantities in the simulated data.

In the cross-sectional data, column (1) first reveals some inequality in the distribution of disposable income. The 20% poorest individuals receive only 9% of the total disposable income in the economy. In turn, column (2) shows that VAT is paid somewhat unequally. The 20% poorest individuals, earning 9% of total income, actually bear 12.4% of the total VAT burden. More generally, the cumulative share of VAT by income quintile is systematically above the cumulative share of income. In other words, poorer individuals contribute more to the tax burden in proportion of their income than richer individuals. The extent to which this is the case can be apprehended synthetically by computing the Suits index. In cross-section, the value-added tax exhibits a Suits index of -0.087, which indicates mild regressivity.[19]

A first question of interest is whether the simulation method presented in section 4 can reproduce these results accurately. To investigate this, columns (3) and (4) of Table 2 report the cumulative shares and the suits index computed from the simulated data, but only keeping observations that correspond to the age of the household head for which each household was actually observed in the original data. A way to apprehend how well the method performs in cross-section is then to evaluate how close the numbers in columns (3)-(4) are to those in columns (1)-(2). As it turns out, simulated and actual cross-section cumulative income shares by income quintiles are quite similar. The difference is greatest for the third income quintile, when the simulated income share is .9 percentage points lower than the actual income share of 40.8%, corresponding to a 2.2% deviation. Similarly, cumulative VAT shares by income quintiles are very close in the simulated and actual cross-sections. The greatest deviation is for the first income quintile, where the simulated VAT share is 3% below the actual cross-section figure. Overall, the numbers in columns (1)-(2) and (3)-(4) are rarely significantly different. The Suits index is -.098 in the simulated cross-section, very close and not statistically different from the Suits index computed on the original data.

Altogether, these observations suggest that the method proposed here produces very consistent results, and can thus be used to investigate how much simulated lifetime VAT incidence differs from cross-section incidence. To explore this, columns (5) and (6) of Table 2 report the cumulative VAT and income shares by income quintiles obtained for lifetime income and VAT. I compute lifetime quantities for each household as the discounted sum of annual quantities over ages 26 to 70.[20] Column (5) first reveals that permanent income is distributed significantly more equally than cross-section income. When looking at permanent quantities, the first income quintile receives 14.3% of total income, instead of just 8.9% in cross-section.[21] In the cross-section data, individuals are observed at very different stages of their lives. Since income tends to increase with age, younger individuals are mechanically pushed lower in the distribution of income than what their actual lifetime standard of living is. In other words, even in a population in which everyone would have the same lifetime income, observing individuals at different stages of their lives would create some inequality. Considering permanent income eliminates the part of income inequality that is due to this lifecycle effect. Turning to the distribution of the VAT

[19] In comparison, Suits [1977] finds that sales and excise taxes in the US have an index of -.15 in 1970. For the same year, he finds that the individual income tax corresponds to an index of .19.

[20] I use a 4% discount rate as in Lyon and Schwab [1995].

[21] For the USA, Lyon and Schwab [1995] find that the first income quintile receives 6.1% of income in cross-section data, but 9.9% in permanent quantities. Our results highlight the same pattern.

burden, column (6) then reveals that VAT is still paid for quite unequally in a lifetime perspective. The 20% poorest individuals according to lifetime income pay 16.3% of lifetime VAT but only receive 14.3% of total lifetime income. More generally, cumulative lifetime VAT shares are always greater than cumulative income shares, which indicates that VAT is still regressive in a lifetime perspective. However, further inspection reveals that it is somewhat less regressive than in cross-section. The deviation between cumulative VAT shares and cumulative income shares is much smaller for lifetime quantities than for cross-sectional ones. Simulated cross-section data indicates that the 20% poorest individuals pay 35% more VAT than what they would be paying if the tax were proportional, whereas with lifetime quantities this deviation drops to 14%. Overall, the Suits index for lifetime VAT is -.052, significantly lower than -.098. This suggests that VAT is about 50% less regressive on the life-cycle than in cross-section.

7 Conclusion

Taxes on consumption account for an important part of fiscal resources in most countries. In France, the value-added tax has become the most important source of revenue for the State. Because collecting consumption taxes is easy and inexpensive, they may play an increasingly important role for many countries in the future. Since savings are partly used to finance future consumption, the distributional effect of such taxes should arguably be measured over the life-cycle of individuals. However, important data limitations have impaired progress in this direction.

In this paper, I propose a way to evaluate lifetime incidence of taxes on consumption, using only repeated cross-section data on consumption and income that is available in many countries. The method relies on estimating a simple parametric model for the joint process of income and VAT, using a pseudo-panel of empirical moments computed among fixed-membership groups. The joint distribution of lifetime income and VAT can then be recovered by simulating their individual life-cycle trajectories. Overall, I find that the value-added tax in France is about 50% less regressive over the life-cycle than in a cross-section.

References

Mark Aguiar and Erik Hurst. Deconstructing life cycle expenditure. *Journal of Political Economy*, 121:437–492, 2013.

Orazio P. Attanasio, James Banks, Costas Meghir, and Guglielmo Weber. Humps and bumps in lifetime consumption. *Journal of Business & Economic Statistics*, 17(1):pp. 22–35, 1999.

Sandra E. Black and Paul J. Devereux. *Recent Developments in Intergenerational Mobility*, volume 4 of *Handbook of Labor Economics*, chapter 16, pages 1487–1541. Elsevier, 2011.

Richard Blundell. Income dynamics and life-cycle inequality: Mechanisms and controversies. *The Economic Journal*, 124(576):289–318, 2014.

Richard Blundell and Ian Preston. Consumption Inequality And Income Uncertainty. *The Quarterly Journal of Economics*, 113(2):603–640, May 1998.

Richard Blundell, Luigi Pistaferri, and Ian Preston. Consumption Inequality and Partial Insurance. *American Economic Review*, 98(5):1887–1921, December 2008.

Francois Bourguignon, Chor-ching Goh, and Dae Il Kim. Estimating individual vulnerability to poverty with pseudo-panel data. Policy Research Working Paper Series 3375, The World Bank, August 2004.

Christopher Carroll, Thomas Crossley, and John Sabelhaus. *Improving the Measurement of Consumer Expenditures*. NBER Books. National Bureau of Economic Research, Inc, 2015.

Christopher D. Carroll and Lawrence H. Summers. Consumption Growth Parallels Income Growth: Some New Evidence. In *National Saving and Economic Performance*, NBER Chapters, pages 305–348. National Bureau of Economic Research, Inc, October 1991.

Erik Caspersen and Gilbert E. Metcalf. Is a Value Added Tax Regressive? Annual Versus Lifetime Incidence Measures. *National Tax Journal*, 47(4):731–46, December 1994.

COR. Retraites : un état des lieux du système français. Douzième rapport annuel, Conseil d'orientation des retraites, January 2013.

David G. Davies. Progressiveness of a sales tax in relation to various income bases. *The American Economic Review*, 50(5):pp. 987–995, 1960.

James Davies, France St-Hilaire, and John Whalley. Some calculations of lifetime tax incidence. *The American Economic Review*, 74(4):pp. 633–649, 1984.

Angus Deaton. *The Analysis of Household Surveys: A Microeconometric Approach to Development Policy*. A World Bank pulication. World Bank, 1997.

Angus Deaton and Christina Paxson. Intertemporal choice and inequality. *Journal of Political Economy*, 102(3):pp. 437–467, 1994. ISSN 00223808.

Jesus Fernández-Villaverde and Dirk Krueger. Consumption over the Life Cycle: Facts from Consumer Expenditure Survey Data. *The Review of Economics and Statistics*, 89(3):552–565, August 2007.

Don Fullerton and Diane Lim Rogers. Lifetime Versus Annual Perspectives on Tax Incidence. *National Tax Journal*, 44(3):277–87, September 1991.

Pierre-Olivier Gourinchas and Jonathan A. Parker. Consumption over the life cycle. *Econometrica*, 70(1):pp. 47–89, 2002. ISSN 00129682.

Steven Haider and Gary Solon. Life-cycle variation in the association between current and lifetime earnings. *American Economic Review*, 96(4):1308–1320, 2006.

Andrew B Lyon and Robert M Schwab. Consumption Taxes in a Life-Cycle Framework: Are Sin Taxes Regressive? *The Review of Economics and Statistics*, 77(3):389–406, August 1995.

Costas Meghir and Luigi Pistaferri. *Earnings, Consumption and Life Cycle Choices*, volume 4 of *Handbook of Labor Economics*, chapter 9, pages 773–854. Elsevier, 2011.

Olivier Meslin. Construction d'un modèle de micro-simulation de la fiscalité indirecte française, 2012.

Samuel Ménard and Gwendoline Volat. Conditions de logement de 2005 à 2010. *Insee Première*, 1396, 2012.

OECD. *The Distributional Effects of Consumption Taxes in OECD Countries.* Number 22 in OECD Tax Policy Studies. OECD Publishing, 2014.

James M Poterba. Lifetime Incidence and the Distributional Burden of Excise Taxes. *American Economic Review*, 79(2):325–30, May 1989.

Daniel B. Suits. Measurement of tax progressivity. *The American Economic Review*, 67(4):pp. 747–752, 1977.

Alain Trannoy and Nicolas Ruiz. Le caractère régressif des taxes indirectes : les enseignements d'un modèle de microsimulation. *Économie et Statistique*, 413(1):21–46, 2008.

A Data appendix

Normalized year dummies

Following Deaton [1997], I impose that year effects sum to zero and that they be orthogonal to a time trend in model 1. Those constraints can be directly embedded in model 1 by replacing year dummies with properly normalized year dummies. This procedure is explained in Deaton [1997] for the case where data is available for consecutive years. However, in this paper we use repeated cross section that are spaced irregularly over time. I explain here how to recover normalized year dummies in this setting. We can write the full vector of year controls as:

$$\gamma_{1984} d_{1984} + \gamma_{1989} d_{1989} + \gamma_{1995} d_{1995} + \gamma_{2000} d_{2000} + \gamma_{2006} d_{2006} + \gamma_{2011} d_{2011} \tag{6}$$

where the γ_t's are to be estimated and the d_t's denote the vectors of zeros and ones associated with each year indicator. Normally, we would for example set γ_{1984} equal to zero to normalize the year effects. Here, we are trying instead to find a new linear combinations of the d_t's (denote them $\tilde{d}_t$) such that imposing $\tilde{\gamma}_{1984} = 0$ and $\tilde{\gamma}_{1989} = 0$ mechanically imposes our two restrictions that year effects sum to zero and be orthogonal to a time trend. In other words, we need that:

$$\begin{cases} \tilde{\gamma}_{1984} = \gamma_{1984} + \gamma_{1989} + \gamma_{1995} + \gamma_{2000} + \gamma_{2006} + \gamma_{2011} \\ \tilde{\gamma}_{1989} = 5\gamma_{1989} + 11\gamma_{1995} + 16\gamma_{2000} + 22\gamma_{2006} + 27\gamma_{2011} \\ \quad \tilde{\gamma}_t = \gamma_t \text{ for } t \geq 1995 \end{cases} \tag{7}$$

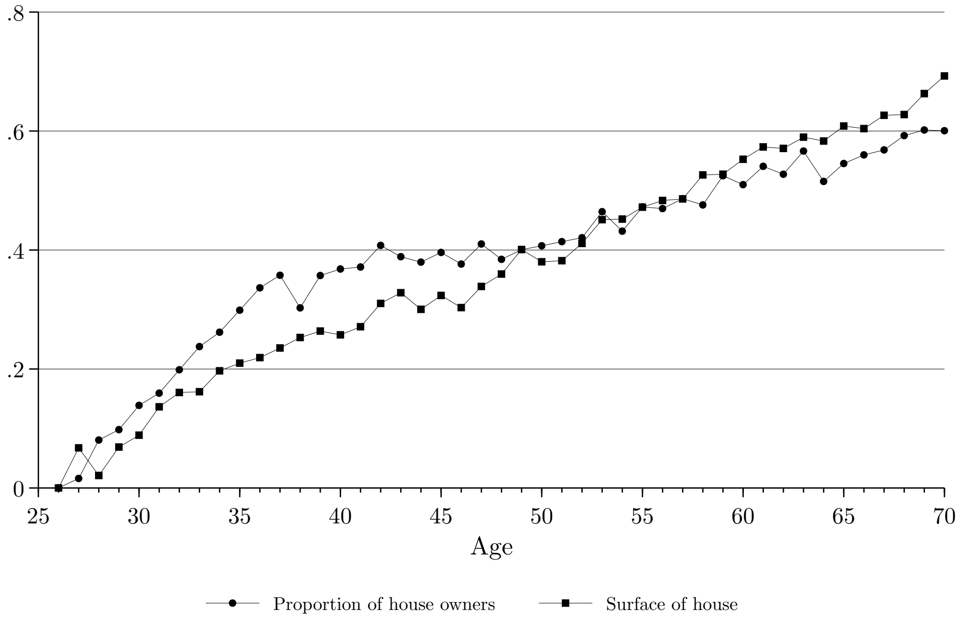
Collecting terms associated with each vector of year indicators d_t, this imposes:

$$\begin{cases} d_{1984} = \tilde{d}_{1984} \\ d_{1989} = \tilde{d}_{1984} + 5\tilde{d}_{1989} \\ \quad d_t = \tilde{d}_t + \tilde{d}_{1984} + (t - 1984)\tilde{d}_{1989} \text{ for } t \geq 1995 \end{cases} \tag{8}$$

The normalized year dummies are therefore given by $\tilde{d}_t = d_t - d_{1984} - \frac{(t-1984)}{5}(d_{1984} - d_{1989})$ for $t \geq 1995$, with $\tilde{d}_{1984}$ and $\tilde{d}_{1989}$ being excluded from the estimation.

B Further results

Figure 9: Factors explaining the evolution of imputed rents over life



Note: the figure plots the age dummies' coefficients obtained when regressing (i) a dummy indicating homeownership and (ii) the log of the surface of the dwelling of households, on a set of age dummies, controlling for cohort, year of observation, and household composition effect, such as in model (1). Source: BDF, 1984-2011, Insee.

Table 3: Changes in VAT structure

	1982	1988	1989	1990	1992	1995	2000	2012	2014
Super-reduced rate	5.5	5.5	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Reduced rate	7.0	7.0	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Intermediate rate								7.0	10.0
Normal rate	18.6	18.6	18.6	18.6	18.6	20.6	19.6	19.6	20.0
Increased rate	33.33	28.0	25.0	22.0	18.6				

Note: the table reports the main changes that occurred from 1982 to 2014 concerning the existing VAT rates. Numbers reported are the percentage at which products falling in the corresponding tax category were taxed.

Liste des documents de travail de la Direction des Études et Synthèses Économiques

G 9001 J. FAYOLLE et M. FLEURBAEY
Accumulation, profitabilité et endettement des entreprises

G 9002 H. ROUSSE
Détection et effets de la multicolinéarité dans les modèles linéaires ordinaires - Un prolongement de la réflexion de BELSLEY, KUH et WELSCH

G 9003 P. RALLE et J. TOUJAS-BERNATE
Indexation des salaires : la rupture de 1983

G 9004 D. GUELLEC et P. RALLE
Compétitivité, croissance et innovation de produit

G 9005 P. RALLE et J. TOUJAS-BERNATE
Les conséquences de la désindexation. Analyse dans une maquette prix-salaires

G 9101 Équipe AMADEUS
Le modèle AMADEUS - Première partie - Présentation générale

G 9102 J.L. BRILLET
Le modèle AMADEUS - Deuxième partie - Propriétés variantielles

G 9103 D. GUELLEC et P. RALLE
Endogenous growth and product innovation

G 9104 H. ROUSSE
Le modèle AMADEUS - Troisième partie - Le commerce extérieur et l'environnement international

G 9105 H. ROUSSE
Effets de demande et d'offre dans les résultats du commerce extérieur manufacturé de la France au cours des deux dernières décennies

G 9106 B. CREPON
Innovation, taille et concentration : causalités et dynamiques

G 9107 B. AMABLE et D. GUELLEC
Un panorama des théories de la croissance endogène

G 9108 M. GLAUDE et M. MOUTARDIER
Une évaluation du coût direct de l'enfant de 1979 à 1989

G 9109 P. RALLE et alii
France - Allemagne : performances économiques comparées

G 9110 J.L. BRILLET
Micro-DMS **_NON PARU_**

G 9111 A. MAGNIER
Effets accélérateur et multiplicateur en France depuis 1970 : quelques résultats empiriques

G 9112 B. CREPON et G. DUREAU
Investissement en recherche-développement : analyse de causalités dans un modèle d'accélérateur généralisé

G 9113 J.L. BRILLET, H. ERKEL-ROUSSE, J. TOUJAS-BERNATE
"France-Allemagne Couplées" - Deux économies vues par une maquette macro-économétrique

G 9201 W.J. ADAMS, B. CREPON, D. ENCAOUA
Choix technologiques et stratégies de dissuasion d'entrée

G 9202 J. OLIVEIRA-MARTINS, J. TOUJAS-BERNATE
Macro-economic import functions with imperfect competition - An application to the E.C. Trade

G 9203 I. STAPIC
Les échanges internationaux de services de la France dans le cadre des négociations multilatérales du GATT
Juin 1992 (1ère version)
Novembre 1992 (version finale)

G 9204 P. SEVESTRE
L'économétrie sur données individuelles-temporelles. Une note introductive

G 9205 H. ERKEL-ROUSSE
Le commerce extérieur et l'environnement international dans le modèle AMADEUS (réestimation 1992)

G 9206 N. GREENAN et D. GUELLEC
Coordination within the firm and endogenous growth

G 9207 A. MAGNIER et J. TOUJAS-BERNATE
Technology and trade: empirical evidences for the major five industrialized countries

G 9208 B. CREPON, E. DUGUET, D. ENCAOUA et P. MOHNEN
Cooperative, non cooperative R & D and optimal patent life

G 9209 B. CREPON et E. DUGUET
Research and development, competition and innovation: an application of pseudo maximum likelihood methods to Poisson models with heterogeneity

G 9301 J. TOUJAS-BERNATE
Commerce international et concurrence imparfaite : développements récents et implications pour la politique commerciale

G 9302 Ch. CASES
Durées de chômage et comportements d'offre de travail : une revue de la littérature

G 9303 H. ERKEL-ROUSSE
Union économique et monétaire : le débat économique

G 9304 N. GREENAN - D. GUELLEC / G. BROUSSAUDIER - L. MIOTTI
Innovation organisationnelle, dynamisme technologique et performances des entreprises

G 9305 P. JAILLARD
Le traité de Maastricht : présentation juridique et historique

G 9306 J.L. BRILLET
Micro-DMS : présentation et propriétés

G 9307 J.L. BRILLET
Micro-DMS - variantes : les tableaux

G 9308 S. JACOBZONE
Les grands réseaux publics français dans une perspective européenne

G 9309 L. BLOCH - B. CŒURE
Profitabilité de l'investissement productif et transmission des chocs financiers

G 9310 J. BOURDIEU - B. COLIN-SEDILLOT
Les théories sur la structure optimale du capital : quelques points de repère

G 9311 J. BOURDIEU - B. COLIN-SEDILLOT
Les décisions de financement des entreprises françaises : une évaluation empirique des théories de la structure optimale du capital

G 9312 L. BLOCH - B. CŒURÉ
Q de Tobin marginal et transmission des chocs financiers

G 9313 Équipes Amadeus (INSEE), Banque de France, Métric (DP)
Présentation des propriétés des principaux modèles macroéconomiques du Service Public

G 9314 B. CREPON - E. DUGUET
Research & Development, competition and innovation

G 9315 B. DORMONT
Quelle est l'influence du coût du travail sur l'emploi ?

G 9316 D. BLANCHET - C. BROUSSE
Deux études sur l'âge de la retraite

G 9317 D. BLANCHET
Répartition du travail dans une population hétérogène : deux notes

G 9318 D. EYSSARTIER - N. PONTY
AMADEUS - an annual macro-economic model for the medium and long term

G 9319 G. CETTE - Ph. CUNÉO - D. EYSSARTIER - J. GAUTIÉ
Les effets sur l'emploi d'un abaissement du coût du travail des jeunes

G 9401 D. BLANCHET
Les structures par âge importent-elles ?

G 9402 J. GAUTIÉ
Le chômage des jeunes en France : problème de formation ou phénomène de file d'attente ? Quelques éléments du débat

G 9403 P. QUIRION
Les déchets en France : éléments statistiques et économiques

G 9404 D. LADIRAY - M. GRUN-REHOMME
Lissage par moyennes mobiles - Le problème des extrémités de série

G 9405 V. MAILLARD
Théorie et pratique de la correction des effets de jours ouvrables

G 9406 F. ROSENWALD
La décision d'investir

G 9407 S. JACOBZONE
Les apports de l'économie industrielle pour définir la stratégie économique de l'hôpital public

G 9408 L. BLOCH, J. BOURDIEU, B. COLIN-SEDILLOT, G. LONGUEVILLE
Du défaut de paiement au dépôt de bilan : les banquiers face aux PME en difficulté

G 9409 D. EYSSARTIER, P. MAIRE
Impacts macro-économiques de mesures d'aide au logement - quelques éléments d'évaluation

G 9410 F. ROSENWALD
Suivi conjoncturel de l'investissement

G 9411 C. DEFEUILLEY - Ph. QUIRION
Les déchets d'emballages ménagers : une analyse économique des politiques française et allemande

G 9412 J. BOURDIEU - B. CŒURÉ - B. COLIN-SEDILLOT
Investissement, incertitude et irréversibilité
Quelques développements récents de la théorie de l'investissement

G 9413 B. DORMONT - M. PAUCHET
L'évaluation de l'élasticité emploi-salaire dépend-elle des structures de qualification ?

G 9414 I. KABLA
Le Choix de breveter une invention

G 9501 J. BOURDIEU - B. CŒURÉ - B. SEDILLOT
Irreversible Investment and Uncertainty:
When is there a Value of Waiting?

G 9502 L. BLOCH - B. CŒURÉ
Imperfections du marché du crédit, investissement des entreprises et cycle économique

G 9503 D. GOUX - E. MAURIN
Les transformations de la demande de travail par qualification en France
Une étude sur la période 1970-1993

G 9504 N. GREENAN
Technologie, changement organisationnel, qualifications et emploi : une étude empirique sur l'industrie manufacturière

G 9505 D. GOUX - E. MAURIN
Persistance des hiérarchies sectorielles de salaires: un réexamen sur données françaises

G 9505 Bis D. GOUX - E. MAURIN
Persistence of inter-industry wages differentials: a reexamination on matched worker-firm panel data

G 9506 S. JACOBZONE
Les liens entre RMI et chômage, une mise en perspective
NON PARU - article sorti dans Économie et Prévision n° 122 (1996) - pages 95 à 113

G 9507 G. CETTE - S. MAHFOUZ
Le partage primaire du revenu
Constat descriptif sur longue période

G 9601 Banque de France - CEPREMAP - Direction de la Prévision - Érasme - INSEE - OFCE
Structures et propriétés de cinq modèles macro-économiques français

G 9602 Rapport d'activité de la DESE de l'année 1995

G 9603 J. BOURDIEU - A. DRAZNIEKS
L'octroi de crédit aux PME : une analyse à partir d'informations bancaires

G 9604 A. TOPIOL-BENSAÏD
Les implantations japonaises en France

G 9605 P. GENIER - S. JACOBZONE
Comportements de prévention, consommation d'alcool et tabagie : peut-on parler d'une gestion globale du capital santé ?
Une modélisation microéconométrique empirique

G 9606 C. DOZ - F. LENGLART
Factor analysis and unobserved component models: an application to the study of French business surveys

G 9607 N. GREENAN - D. GUELLEC
La théorie coopérative de la firme

G 9608 N. GREENAN - D. GUELLEC
Technological innovation and employment reallocation

G 9609 Ph. COUR - F. RUPPRECHT
L'intégration asymétrique au sein du continent américain : un essai de modélisation

G 9610 S. DUCHENE - G. FORGEOT - A. JACQUOT
Analyse des évolutions récentes de la productivité apparente du travail

G 9611 X. BONNET - S. MAHFOUZ
The influence of different specifications of wages-prices spirals on the measure of the NAIRU: the case of France

G 9612 PH. COUR - E. DUBOIS, S. MAHFOUZ, J. PISANI-FERRY
The cost of fiscal retrenchment revisited: how strong is the evidence?

G 9613 A. JACQUOT
Les flexions des taux d'activité sont-elles seulement conjoncturelles ?

G 9614 ZHANG Yingxiang - SONG Xueqing
Lexique macroéconomique Français-Chinois

G 9701 J.L. SCHNEIDER
La taxe professionnelle : éléments de cadrage économique

G 9702 J.L. SCHNEIDER
Transition et stabilité politique d'un système redistributif

G 9703 D. GOUX - E. MAURIN
Train or Pay: Does it Reduce Inequalities to Encourage Firms to Train their Workers?

G 9704 P. GENIER
Deux contributions sur dépendance et équité

G 9705 E. DUGUET - N. IUNG
R & D Investment, Patent Life and Patent Value
An Econometric Analysis at the Firm Level

G 9706 M. HOUDEBINE - A. TOPIOL-BENSAÏD
Les entreprises internationales en France : une analyse à partir de données individuelles

G 9707 M. HOUDEBINE
Polarisation des activités et spécialisation des départements en France

G 9708 E. DUGUET - N. GREENAN
Le biais technologique : une analyse sur données individuelles

G 9709 J.L. BRILLET
Analyzing a small French ECM Model

G 9710 J.L. BRILLET
Formalizing the transition process: scenarios for capital accumulation

G 9711 G. FORGEOT - J. GAUTIÉ
Insertion professionnelle des jeunes et processus de déclassement

G 9712 E. DUBOIS
High Real Interest Rates: the Consequence of a Saving Investment Disequilibrium or of an insufficient Credibility of Monetary Authorities?

G 9713 Bilan des activités de la Direction des Études et Synthèses Économiques - 1996

G 9714 F. LEQUILLER
Does the French Consumer Price Index Overstate Inflation?

G 9715 X. BONNET
Peut-on mettre en évidence les rigidités à la baisse des salaires nominaux ?
Une étude sur quelques grands pays de l'OCDE

G 9716 N. IUNG - F. RUPPRECHT
Productivité de la recherche et rendements d'échelle dans le secteur pharmaceutique français

G 9717 E. DUGUET - I. KABLA
Appropriation strategy and the motivations to use the patent system in France - An econometric analysis at the firm level

G 9718 L.P. PELÉ - P. RALLE
Âge de la retraite : les aspects incitatifs du régime général

G 9719 ZHANG Yingxiang - SONG Xueqing
Lexique macroéconomique français-chinois, chinois-français

G 9720 M. HOUDEBINE - J.L. SCHNEIDER
Mesurer l'influence de la fiscalité sur la localisation des entreprises

G 9721 A. MOUROUGANE
Crédibilité, indépendance et politique monétaire
Une revue de la littérature

G 9722 P. AUGERAUD - L. BRIOT
Les données comptables d'entreprises
Le système intermédiaire d'entreprises
Passage des données individuelles aux données sectorielles

G 9723 P. AUGERAUD - J.E. CHAPRON
Using Business Accounts for Compiling National Accounts: the French Experience

G 9724 P. AUGERAUD
Les comptes d'entreprise par activités - Le passage aux comptes - De la comptabilité d'entreprise à la comptabilité nationale - *A paraître*

G 9801 H. MICHAUDON - C. PRIGENT
Présentation du modèle AMADEUS

G 9802 J. ACCARDO
Une étude de comptabilité générationnelle pour la France en 1996

G 9803 X. BONNET - S. DUCHÊNE
Apports et limites de la modélisation « Real Business Cycles »

G 9804 C. BARLET - C. DUGUET - D. ENCAOUA - J. PRADEL
The Commercial Success of Innovations
An econometric analysis at the firm level in French manufacturing

G 9805 P. CAHUC - Ch. GIANELLA - D. GOUX - A. ZILBERBERG
Equalizing Wage Differences and Bargaining Power - Evidence form a Panel of French Firms

G 9806 J. ACCARDO - M. JLASSI
La productivité globale des facteurs entre 1975 et 1996

G 9807 Bilan des activités de la Direction des Études et Synthèses Économiques - 1997

G 9808 A. MOUROUGANE
Can a Conservative Governor Conduct an Accomodative Monetary Policy?

G 9809 X. BONNET - E. DUBOIS - L. FAUVET
Asymétrie des inflations relatives et menus costs : tests sur l'inflation française

G 9810 E. DUGUET - N. IUNG
Sales and Advertising with Spillovers at the firm level: Estimation of a Dynamic Structural Model on Panel Data

G 9811 J.P. BERTHIER
Congestion urbaine : un modèle de trafic de pointe à courbe débit-vitesse et demande élastique

G 9812 C. PRIGENT
La part des salaires dans la valeur ajoutée : une approche macroéconomique

G 9813 A.Th. AERTS
L'évolution de la part des salaires dans la valeur ajoutée en France reflète-t-elle les évolutions individuelles sur la période 1979-1994 ?

G 9814 B. SALANIÉ
Guide pratique des séries non-stationnaires

G 9901 S. DUCHÊNE - A. JACQUOT
Une croissance plus riche en emplois depuis le début de la décennie ? Une analyse en comparaison internationale

G 9902 Ch. COLIN
Modélisation des carrières dans Destinie

G 9903 Ch. COLIN
Évolution de la dispersion des salaires : un essai de prospective par microsimulation

G 9904 B. CREPON - N. IUNG
Innovation, emploi et performances

G 9905 B. CREPON - Ch. GIANELLA
Wages inequalities in France 1969-1992
An application of quantile regression techniques

G 9906 C. BONNET - R. MAHIEU
Microsimulation techniques applied to intergenerational transfers - Pensions in a dynamic framework: the case of France

G 9907 F. ROSENWALD
L'impact des contraintes financières dans la décision d'investissement

G 9908 Bilan des activités de la DESE - 1998

G 9909 J.P. ZOYEM
Contrat d'insertion et sortie du RMI
Évaluation des effets d'une politique sociale

G 9910 Ch. COLIN - Fl. LEGROS - R. MAHIEU
Bilans contributifs comparés des régimes de retraite du secteur privé et de la fonction publique

G 9911 G. LAROQUE - B. SALANIÉ
Une décomposition du non-emploi en France

G 9912 B. SALANIÉ
Une maquette analytique de long terme du marché du travail

G 9912 Bis Ch. GIANELLA
Une estimation de l'élasticité de l'emploi peu qualifié à son coût

G 9913 Division « Redistribution et Politiques Sociales »
Le modèle de microsimulation dynamique DESTINIE

G 9914 E. DUGUET
Macro-commandes SAS pour l'économétrie des panels et des variables qualitatives

G 9915 R. DUHAUTOIS
Évolution des flux d'emplois en France entre 1990 et 1996 : une étude empirique à partir du fichier des bénéfices réels normaux (BRN)

G 9916 J.Y. FOURNIER
Extraction du cycle des affaires : la méthode de Baxter et King

G 9917 B. CRÉPON - R. DESPLATZ - J. MAIRESSE
Estimating price cost margins, scale economies and workers' bargaining power at the firm level

G 9918 Ch. GIANELLA - Ph. LAGARDE
Productivity of hours in the aggregate production function: an evaluation on a panel of French firms from the manufacturing sector

G 9919 S. AUDRIC - P. GIVORD - C. PROST
Évolution de l'emploi et des coûts par qualification entre 1982 et 1996

G 2000/01 R. MAHIEU
Les déterminants des dépenses de santé : une approche macroéconomique

G 2000/02 C. ALLARD-PRIGENT - H. GUILMEAU - A. QUINET
The real exchange rate as the relative price of nontrables in terms of tradables: theoretical investigation and empirical study on French data

G 2000/03 J.-Y. FOURNIER
L'approximation du filtre passe-bande proposée par Christiano et Fitzgerald

G 2000/04 Bilan des activités de la DESE - 1999

G 2000/05 B. CREPON - F. ROSENWALD
Investissement et contraintes de financement : le poids du cycle
Une estimation sur données françaises

G 2000/06 A. FLIPO
Les comportements matrimoniaux de fait

G 2000/07 R. MAHIEU - B. SÉDILLOT
Microsimulations of the retirement decision: a supply side approach

G 2000/08 C. AUDENIS - C. PROST
Déficit conjoncturel : une prise en compte des conjonctures passées

G 2000/09 R. MAHIEU - B. SÉDILLOT
Équivalent patrimonial de la rente et souscription de retraite complémentaire

G 2000/10 R. DUHAUTOIS
Ralentissement de l'investissement : petites ou grandes entreprises ? industrie ou tertiaire ?

G 2000/11 G. LAROQUE - B. SALANIÉ
Temps partiel féminin et incitations financières à l'emploi

G2000/12 Ch. GIANELLA
Local unemployment and wages

G2000/13 B. CREPON - Th. HECKEL
- Informatisation en France : une évaluation à partir de données individuelles
- Computerization in France: an evaluation based on individual company data

G2001/01 F. LEQUILLER
- La nouvelle économie et la mesure de la croissance du PIB
- The new economy and the measure ment of GDP growth

G2001/02 S. AUDRIC
La reprise de la croissance de l'emploi profite-t-elle aussi aux non-diplômés ?

G2001/03 I. BRAUN-LEMAIRE
Évolution et répartition du surplus de productivité

G2001/04 A. BEAUDU - Th. HECKEL
Le canal du crédit fonctionne-t-il en Europe ? Une étude de l'hétérogénéité des comportements d'investissement à partir de données de bilan agrégées

G2001/05 C. AUDENIS - P. BISCOURP - N. FOURCADE - O. LOISEL
Testing the augmented Solow growth model: An empirical reassessment using panel data

G2001/06 R. MAHIEU - B. SÉDILLOT
Départ à la retraite, irréversibilité et incertitude

G2001/07 Bilan des activités de la DESE - 2000

G2001/08 J. Ph. GAUDEMET
Les dispositifs d'acquisition à titre facultatif d'annuités viagères de retraite

G2001/09 B. CRÉPON - Ch. GIANELLA
Fiscalité, coût d'usage du capital et demande de facteurs : une analyse sur données individuelles

G2001/10 B. CRÉPON - R. DESPLATZ
Évaluation des effets des dispositifs d'allégements de charges sociales sur les bas salaires

G2001/11 J.-Y. FOURNIER
Comparaison des salaires des secteurs public et privé

G2001/12 J.-P. BERTHIER - C. JAULENT R. CONVENEVOLE - S. PISANI
Une méthodologie de comparaison entre consommations intermédiaires de source fiscale et de comptabilité nationale

G2001/13 P. BISCOURP - Ch. GIANELLA
Substitution and complementarity between capital, skilled and less skilled workers: an analysis at the firm level in the French manufacturing industry

G2001/14 I. ROBERT-BOBEE
Modelling demographic behaviours in the French microsimulation model Destinie: An analysis of future change in completed fertility

G2001/15 J.-P. ZOYEM
Diagnostic sur la pauvreté et calendrier de revenus : le cas du "Panel européen des ménages »

G2001/16 J.-Y. FOURNIER - P. GIVORD
La réduction des taux d'activité aux âges extrêmes, une spécificité française ?

G2001/17 C. AUDENIS - P. BISCOURP - N. RIEDINGER
Existe-t-il une asymétrie dans la transmission du prix du brut aux prix des carburants ?

G2002/01 F. MAGNIEN - J.-L. TAVERNIER - D. THESMAR
Les statistiques internationales de PIB par habitant en standard de pouvoir d'achat : une analyse des résultats

G2002/02 Bilan des activités de la DESE - 2001

G2002/03 B. SÉDILLOT - E. WALRAET
La cessation d'activité au sein des couples : y a-t-il interdépendance des choix ?

G2002/04 G. BRILHAULT
- Rétropolation des séries de FBCF et calcul du capital fixe en SEC-95 dans les comptes nationaux français
- Retropolation of the investment series (GFCF) and estimation of fixed capital stocks on the ESA-95 basis for the French balance sheets

G2002/05 P. BISCOURP - B. CRÉPON - T. HECKEL - N. RIEDINGER
How do firms respond to cheaper computers? Microeconometric evidence for France based on a production function approach

G2002/06 C. AUDENIS - J. DEROYON - N. FOURCADE
L'impact des nouvelles technologies de l'information et de la communication sur l'économie française - un bouclage macro-économique

G2002/07 J. BARDAJI - B. SÉDILLOT - E. WALRAET
Évaluation de trois réformes du Régime Général d'assurance vieillesse à l'aide du modèle de microsimulation DESTINIE

G2002/08 J.-P. BERTHIER
Réflexions sur les différentes notions de volume dans les comptes nationaux : comptes aux prix d'une année fixe ou aux prix de l'année précédente, séries chaînées

G2002/09 F. HILD
Les soldes d'opinion résument-ils au mieux les réponses des entreprises aux enquêtes de conjoncture ?

G2002/10 I. ROBERT-BOBÉE
Les comportements démographiques dans le modèle de microsimulation Destinie - Une comparaison des estimations issues des enquêtes Jeunes et Carrières 1997 et Histoire Familiale 1999

G2002/11 J.-P. ZOYEM
La dynamique des bas revenus : une analyse des entrées-sorties de pauvreté

G2002/12 F. HILD
Prévisions d'inflation pour la France

G2002/13 M. LECLAIR
Réduction du temps de travail et tensions sur les facteurs de production

G2002/14 E. WALRAET - A. VINCENT
- Analyse de la redistribution intragénérationnelle dans le système de retraite des salariés du privé
- Une approche par microsimulation
- Intragenerational distributional analysis in the french private sector pension scheme - A microsimulation approach

G2002/15 P. CHONE - D. LE BLANC - I. ROBERT-BOBEE
Offre de travail féminine et garde des jeunes enfants

G2002/16 F. MAUREL - S. GREGOIR
Les indices de compétitivité des pays : interprétation et limites

G2003/01 N. RIEDINGER - E.HAUVY
Le coût de dépollution atmosphérique pour les entreprises françaises : Une estimation à partir de données individuelles

G2003/02 P. BISCOURP et F. KRAMARZ
Création d'emplois, destruction d'emplois et internationalisation des entreprises industrielles françaises : une analyse sur la période 1986-1992

G2003/03 Bilan des activités de la DESE - 2002

G2003/04 P.-O. BEFFY - J. DEROYON - N. FOURCADE - S. GREGOIR - N. LAÏB - B. MONFORT
Évolutions démographiques et croissance : une projection macro-économique à l'horizon 2020

G2003/05 P. AUBERT
La situation des salariés de plus de cinquante ans dans le secteur privé

G2003/06 P. AUBERT - B. CRÉPON
Age, salaire et productivité
La productivité des salariés décline-t-elle en fin de carrière ?

G2003/07 H. BARON - P.O. BEFFY - N. FOURCADE - R. MAHIEU
Le ralentissement de la productivité du travail au cours des années 1990

G2003/08 P.-O. BEFFY - B. MONFORT
Patrimoine des ménages, dynamique d'allocation et comportement de consommation

G2003/09 P. BISCOURP - N. FOURCADE
Peut-on mettre en évidence l'existence de rigidités à la baisse des salaires à partir de données individuelles ? Le cas de la France à la fin des années 90

G2003/10 M. LECLAIR - P. PETIT
Présence syndicale dans les firmes : quel impact sur les inégalités salariales entre les hommes et les femmes ?

G2003/11 P.-O. BEFFY - X. BONNET - M. DARRACQ-PARIES - B. MONFORT
MZE: a small macro-model for the euro area

G2004/01 P. AUBERT - M. LECLAIR
La compétitivité exprimée dans les enquêtes trimestrielles sur la situation et les perspectives dans l'industrie

G2004/02 M. DUÉE - C. REBILLARD
La dépendance des personnes âgées : une projection à long terme

G2004/03 S. RASPILLER - N. RIEDINGER
Régulation environnementale et choix de localisation des groupes français

G2004/04 A. NABOULET - S. RASPILLER
Les déterminants de la décision d'investir : une approche par les perceptions subjectives des firmes

G2004/05 N. RAGACHE
La déclaration des enfants par les couples non mariés est-elle fiscalement optimale ?

G2004/06 M. DUÉE
L'impact du chômage des parents sur le devenir scolaire des enfants

G2004/07 P. AUBERT - E. CAROLI - M. ROGER
New Technologies, Workplace Organisation and the Age Structure of the Workforce: Firm-Level Evidence

G2004/08 E. DUGUET - C. LELARGE
Les brevets accroissent-ils les incitations privées à innover ? Un examen microéconométrique

G2004/09 S. RASPILLER - P. SILLARD
Affiliating versus Subcontracting: the Case of Multinationals

G2004/10 J. BOISSINOT - C. L'ANGEVIN - B. MONFORT
Public Debt Sustainability: Some Results on the French Case

G2004/11 S. ANANIAN - P. AUBERT
Travailleurs âgés, nouvelles technologies et changements organisationnels : un réexamen à partir de l'enquête « REPONSE »

G2004/12 X. BONNET - H. PONCET
Structures de revenus et propensions différentes à consommer - Vers une équation de consommation des ménages plus robuste en prévision pour la France

G2004/13 C. PICART
Évaluer la rentabilité des sociétés non financières

G2004/14 J. BARDAJI - B. SÉDILLOT - E. WALRAET
Les retraites du secteur public : projections à l'horizon 2040 à l'aide du modèle de microsimulation DESTINIE

G2005/01 S. BUFFETEAU - P. GODEFROY
Conditions de départ en retraite selon l'âge de fin d'études : analyse prospective pour les générations 1945 à1974

G2005/02 C. AFSA - S. BUFFETEAU
L'évolution de l'activité féminine en France : une approche par pseudo-panel

G2005/03 P. AUBERT - P. SILLARD
Délocalisations et réductions d'effectifs dans l'industrie française

G2005/04 M. LECLAIR - S. ROUX
Mesure et utilisation des emplois instables dans les entreprises

G2005/05 C. L'ANGEVIN - S. SERRAVALLE
Performances à l'exportation de la France et de l'Allemagne - Une analyse par secteur et destination géographique

G2005/06 Bilan des activités de la Direction des Études et Synthèses Économiques - 2004

G2005/07 S. RASPILLER
La concurrence fiscale : principaux enseignements de l'analyse économique

G2005/08 C. L'ANGEVIN - N. LAÏB
Éducation et croissance en France et dans un panel de 21 pays de l'OCDE

G2005/09 N. FERRARI
Prévoir l'investissement des entreprises
Un indicateur des révisions dans l'enquête de conjoncture sur les investissements dans l'industrie.

G2005/10 P.-O. BEFFY - C. L'ANGEVIN
Chômage et boucle prix-salaires :
apport d'un modèle « qualifiés/peu qualifiés »

G2005/11 B. HEITZ
A two-states Markov-switching model of inflation in France and the USA: credible target VS inflation spiral

G2005/12 O. BIAU - H. ERKEL-ROUSSE - N. FERRARI
Réponses individuelles aux enquêtes de conjoncture et prévision macroéconomiques :
Exemple de la prévision de la production manufacturière

G2005/13 P. AUBERT - D. BLANCHET - D. BLAU
The labour market after age 50: some elements of a Franco-American comparison

G2005/14 D. BLANCHET - T. DEBRAND -
P. DOURGNON - P. POLLET
L'enquête SHARE : présentation et premiers résultats de l'édition française

G2005/15 M. DUÉE
La modélisation des comportements démographiques dans le modèle de microsimulation DESTINIE

G2005/16 H. RAOUI - S. ROUX
Étude de simulation sur la participation versée aux salariés par les entreprises

G2006/01 C. BONNET - S. BUFFETEAU - P. GODEFROY
Disparités de retraite de droit direct entre hommes et femmes : quelles évolutions ?

G2006/02 C. PICART
Les gazelles en France

G2006/03 P. AUBERT - B. CRÉPON -P. ZAMORA
Le rendement apparent de la formation continue dans les entreprises : effets sur la productivité et les salaires

G2006/04 J.-F. OUVRARD - R. RATHELOT
Demographic change and unemployment:
what do macroeconometric models predict?

G2006/05 D. BLANCHET - J.-F. OUVRARD
Indicateurs d'engagements implicites des systèmes de retraite : chiffrages, propriétés analytiques et réactions à des chocs démographiques types

G2006/06 G. BIAU - O. BIAU - L. ROUVIERE
Nonparametric Forecasting of the Manufacturing Output Growth with Firm-level Survey Data

G2006/07 C. AFSA - P. GIVORD
Le rôle des conditions de travail dans les absences pour maladie

G2006/08 P. SILLARD - C. L'ANGEVIN - S. SERRAVALLE
Performances comparées à l'exportation de la France et de ses principaux partenaires
Une analyse structurelle sur 12 ans

G2006/09 X. BOUTIN - S. QUANTIN
Une méthodologie d'évaluation comptable du coût du capital des entreprises françaises : 1984-2002

G2006/10 C. AFSA
L'estimation d'un coût implicite de la pénibilité du travail chez les travailleurs âgés

G2006/11 C. LELARGE
Les entreprises (industrielles) françaises sont-elles à la frontière technologique ?

G2006/12 O. BIAU - N. FERRARI
Théorie de l'opinion
Faut-il pondérer les réponses individuelles ?

G2006/13 A. KOUBI - S. ROUX
Une réinterprétation de la relation entre productivité et inégalités salariales dans les entreprises

G2006/14 R. RATHELOT - P. SILLARD
The impact of local taxes on plants location decision

G2006/15 L. GONZALEZ - C. PICART
Diversification, recentrage et poids des activités de support dans les groupes (1993-2000)

G2007/01 D. SRAER
Allègements de cotisations patronales et dynamique salariale

G2007/02 V. ALBOUY - L. LEQUIEN
Les rendements non monétaires de l'éducation : le cas de la santé

G2007/03 D. BLANCHET - T. DEBRAND
Aspiration à la retraite, santé et satisfaction au travail : une comparaison européenne

G2007/04 M. BARLET - L. CRUSSON
Quel impact des variations du prix du pétrole sur la croissance française ?

G2007/05 C. PICART
Flux d'emploi et de main-d'œuvre en France : un réexamen

G2007/06 V. ALBOUY - C. TAVAN
Massification et démocratisation de l'enseignement supérieur en France

G2007/07 T. LE BARBANCHON
The Changing response to oil price shocks in France: a DSGE type approach

G2007/08 T. CHANEY - D. SRAER - D. THESMAR
Collateral Value and Corporate Investment
Evidence from the French Real Estate Market

G2007/09 J. BOISSINOT
Consumption over the Life Cycle: Facts for France

G2007/10 C. AFSA
Interpréter les variables de satisfaction : l'exemple de la durée du travail

G2007/11 R. RATHELOT - P. SILLARD
Zones Franches Urbaines : quels effets sur l'emploi salarié et les créations d'établissements ?

G2007/12 V. ALBOUY - B. CRÉPON
Aléa moral en santé : une évaluation dans le cadre du modèle causal de Rubin

G2008/01 C. PICART
Les PME françaises : rentables mais peu dynamiques

G2008/02 P. BISCOURP - X. BOUTIN - T. VERGÉ
The Effects of Retail Regulations on Prices
Evidence form the Loi Galland

G2008/03 Y. BARBESOL - A. BRIANT
Économies d'agglomération et productivité des entreprises : estimation sur données individuelles françaises

G2008/04 D. BLANCHET - F. LE GALLO
Les projections démographiques : principaux mécanismes et retour sur l'expérience française

G2008/05 D. BLANCHET - F. TOUTLEMONDE
Évolutions démographiques et déformation du cycle de vie active : quelles relations ?

G2008/06 M. BARLET - D. BLANCHET - L. CRUSSON
Internationalisation et flux d'emplois : que dit une approche comptable ?

G2008/07 C. LELARGE - D. SRAER - D. THESMAR
Entrepreneurship and Credit Constraints - Evidence from a French Loan Guarantee Program

G2008/08 X. BOUTIN - L. JANIN
Are Prices Really Affected by Mergers?

G2008/09 M. BARLET - A. BRIANT - L. CRUSSON
Concentration géographique dans l'industrie manufacturière et dans les services en France : une approche par un indicateur en continu

G2008/10 M. BEFFY - É. COUDIN - R. RATHELOT
Who is confronted to insecure labor market histories? Some evidence based on the French labor market transition

G2008/11 M. ROGER - E. WALRAET
Social Security and Well-Being of the Elderly: the Case of France

G2008/12 C. AFSA
Analyser les composantes du bien-être et de son évolution
Une approche empirique sur données individuelles

G2008/13 M. BARLET - D. BLANCHET -
T. LE BARBANCHON
Microsimuler le marché du travail : un prototype

G2009/01 P.-A. PIONNIER
Le partage de la valeur ajoutée en France, 1949-2007

G2009/02 Laurent CLAVEL - Christelle MINODIER
A Monthly Indicator of the French Business Climate

G2009/03 H. ERKEL-ROUSSE - C. MINODIER
Do Business Tendency Surveys in Industry and Services Help in Forecasting GDP Growth?
A Real-Time Analysis on French Data

G2009/04 P. GIVORD - L. WILNER
Les contrats temporaires : trappe ou marchepied vers l'emploi stable ?

G2009/05 G. LALANNE - P.-A. PIONNIER - O. SIMON
Le partage des fruits de la croissance de 1950 à 2008 : une approche par les comptes de surplus

G2009/06 L. DAVEZIES - X. D'HAULTFOEUILLE
Faut-il pondérer ?… Ou l'éternelle question de l'économètre confronté à des données d'enquête

G2009/07 S. QUANTIN - S. RASPILLER - S. SERRAVALLE
Commerce intragroupe, fiscalité et prix de transferts : une analyse sur données françaises

G2009/08 M. CLERC - V. MARCUS
Élasticités-prix des consommations énergétiques des ménages

G2009/09 G. LALANNE - E. POULIQUEN - O. SIMON
Prix du pétrole et croissance potentielle à long terme

G2009/10 D. BLANCHET - J. LE CACHEUX - V. MARCUS
Adjusted net savings and other approaches to sustainability: some theoretical background

G2009/11 V. BELLAMY - G. CONSALES - M. FESSEAU -
S. LE LAIDIER - É. RAYNAUD
Une décomposition du compte des ménages de la comptabilité nationale par catégorie de ménage en 2003

G2009/12 J. BARDAJI - F. TALLET
Detecting Economic Regimes in France: a Qualitative Markov-Switching Indicator Using Mixed Frequency Data

G2009/13 R. AEBERHARDT - D. FOUGÈRE -
R. RATHELOT
Discrimination à l'embauche : comment exploiter les procédures de *testing* ?

G2009/14 Y. BARBESOL - P. GIVORD - S. QUANTIN
Partage de la valeur ajoutée, approche par données microéconomiques

G2009/15 I. BUONO - G. LALANNE
The Effect of the Uruguay round on the Intensive and Extensive Margins of Trade

G2010/01 C. MINODIER
Avantages comparés des séries des premières valeurs publiées et des séries des valeurs révisées - Un exercice de prévision en temps réel de la croissance trimestrielle du PIB en France

G2010/02 V. ALBOUY - L. DAVEZIES - T. DEBRAND
Health Expenditure Models: a Comparison of Five Specifications using Panel Data

G2010/03 C. KLEIN - O. SIMON
Le modèle MÉSANGE réestimé en base 2000
Tome 1 – Version avec volumes à prix constants

G2010/04 M.-É. CLERC - É. COUDIN
L'IPC, miroir de l'évolution du coût de la vie en France ? Ce qu'apporte l'analyse des courbes d'Engel

G2010/05 N. CECI-RENAUD - P.-A. CHEVALIER
Les seuils de 10, 20 et 50 salariés : impact sur la taille des entreprises françaises

G2010/06 R. AEBERHARDT - J. POUGET
National Origin Differences in Wages and Hierarchical Positions - Evidence on French Full-Time Male Workers from a matched Employer-Employee Dataset

G2010/07 S. BLASCO - P. GIVORD
Les trajectoires professionnelles en début de vie active : quel impact des contrats temporaires ?

G2010/08 P. GIVORD
Méthodes économétriques pour l'évaluation de politiques publiques

G2010/09 P.-Y. CABANNES - V. LAPÈGUE - E. POULIQUEN - M. BEFFY - M. GAINI
Quelle croissance de moyen terme après la crise ?

G2010/10 I. BUONO - G. LALANNE
La réaction des entreprises françaises à la baisse des tarifs douaniers étrangers

G2010/11 R. RATHELOT - P. SILLARD
L'apport des méthodes à noyaux pour mesurer la concentration géographique - Application à la concentration des immigrés en France de 1968 à 1999

G2010/12 M. BARATON - M. BEFFY - D. FOUGÈRE
Une évaluation de l'effet de la réforme de 2003 sur les départs en retraite - Le cas des enseignants du second degré public

G2010/13 D. BLANCHET - S. BUFFETEAU - E. CRENNER S. LE MINEZ
Le modèle de microsimulation Destinie 2 : principales caractéristiques et premiers résultats

G2010/14 D. BLANCHET - E. CRENNER
Le bloc retraites du modèle Destinie 2 : guide de l'utilisateur

G2010/15 M. BARLET - L. CRUSSON - S. DUPUCH - F. PUECH
Des services échangés aux services échangeables : une application sur données françaises

G2010/16 M. BEFFY - T. KAMIONKA
Public-private wage gaps: is civil-servant human capital sector-specific?

G2010/17 P.-Y. CABANNES - H. ERKEL-ROUSSE - G. LALANNE - O. MONSO - E. POULIQUEN
Le modèle Mésange réestimé en base 2000 Tome 2 - Version avec volumes à prix chaînés

G2010/18 R. AEBERHARDT - L. DAVEZIES
Conditional Logit with one Binary Covariate: Link between the Static and Dynamic Cases

G2011/01 T. LE BARBANCHON - B. OURLIAC - O. SIMON
Les marchés du travail français et américain face aux chocs conjoncturels des années 1986 à 2007 : une modélisation DSGE

G2011/02 C. MARBOT
Une évaluation de la réduction d'impôt pour l'emploi de salariés à domicile

G2011/03 L. DAVEZIES
Modèles à effets fixes, à effets aléatoires, modèles mixtes ou multi-niveaux : propriétés et mises en œuvre des modélisations de l'hétérogénéité dans le cas de données groupées

G2011/04 M. ROGER - M. WASMER
Heterogeneity matters: labour productivity differentiated by age and skills

G2011/05 J.-C. BRICONGNE - J.-M. FOURNIER V. LAPÈGUE - O. MONSO
De la crise financière à la crise économique L'impact des perturbations financières de 2007 et 2008 sur la croissance de sept pays industrialisés

G2011/06 P. CHARNOZ - É. COUDIN - M. GAINI
Wage inequalities in France 1976-2004: a quantile regression analysis

G2011/07 M. CLERC - M. GAINI - D. BLANCHET
Recommendations of the Stiglitz-Sen-Fitoussi Report: A few illustrations

G2011/08 M. BACHELET - M. BEFFY - D. BLANCHET
Projeter l'impact des réformes des retraites sur l'activité des 55 ans et plus : une comparaison de trois modèles

G2011/09 C. LOUVOT-RUNAVOT
L'évaluation de l'activité dissimulée des entreprises sur la base des contrôles fiscaux et son insertion dans les comptes nationaux

G2011/10 A. SCHREIBER - A. VICARD
La tertiarisation de l'économie française et le ralentissement de la productivité entre 1978 et 2008

G2011/11 M.-É. CLERC - O. MONSO - E. POULIQUEN
Les inégalités entre générations depuis le baby-boom

G2011/12 C. MARBOT - D. ROY
Évaluation de la transformation de la réduction d'impôt en crédit d'impôt pour l'emploi de salariés à domicile en 2007

G2011/13 P. GIVORD - R. RATHELOT - P. SILLARD
Place-based tax exemptions and displacement effects: An evaluation of the Zones Franches Urbaines program

G2011/14 X. D'HAULTFOEUILLE - P. GIVORD - X. BOUTIN
The Environmental Effect of Green Taxation: the Case of the French "Bonus/Malus"

G2011/15 M. BARLET - M. CLERC - M. GARNEO - V. LAPÈGUE - V. MARCUS
La nouvelle version du modèle MZE, modèle macroéconométrique pour la zone euro

G2011/16 R. AEBERHARDT - I. BUONO - H. FADINGER
Learning, Incomplete Contracts and Export Dynamics: Theory and Evidence form French Firms

G2011/17 C. KERDRAIN - V. LAPÈGUE
Restrictive Fiscal Policies in Europe: What are the Likely Effects?

G2012/01 P. GIVORD - S. QUANTIN - C. TREVIEN
A Long-Term Evaluation of the First Generation of the French Urban Enterprise Zones

G2012/02 N. CECI-RENAUD - V. COTTET
Politique salariale et performance des entreprises

G2012/03 P. FÉVRIER - L. WILNER
Do Consumers Correctly Expect Price Reductions? Testing Dynamic Behavior

G2012/04 M. GAINI - A. LEDUC - A. VICARD
School as a shelter? School leaving-age and the business cycle in France

G2012/05 M. GAINI - A. LEDUC - A. VICARD
A scarred generation? French evidence on young people entering into a tough labour market

G2012/06 P. AUBERT - M. BACHELET
Disparités de montant de pension et redistribution dans le système de retraite français

G2012/07 R. AEBERHARDT - P GIVORD - C. MARBOT
Spillover Effect of the Minimum Wage in France: An Unconditional Quantile Regression Approach

G2012/08 A. EIDELMAN - F. LANGUMIER - A. VICARD
Prélèvements obligatoires reposant sur les ménages : des canaux redistributifs différents en 1990 et 2010

G2012/09 O. BARGAIN - A. VICARD
Le RMI et son successeur le RSA découragent-ils certains jeunes de travailler ? Une analyse sur les jeunes autour de 25 ans

G2012/10 C. MARBOT - D. ROY
Projections du coût de l'APA et des caractéristiques de ses bénéficiaires à l'horizon 2040 à l'aide du modèle Destinie

G2012/11 A. MAUROUX
Le crédit d'impôt dédié au développement durable : une évaluation économétrique

G2012/12 V. COTTET - S. QUANTIN - V. RÉGNIER
Coût du travail et allègements de charges : une estimation au niveau établissement de 1996 à 2008

G2012/13 X. D'HAULTFOEUILLE - P. FÉVRIER - L. WILNER
Demand Estimation in the Presence of Revenue Management

G2012/14 D. BLANCHET - S. LE MINEZ
Joint macro/micro evaluations of accrued-to-date pension liabilities: an application to French reforms

G2013/01-F1301 T. DEROYON - A. MONTAUT - P-A PIONNIER
Utilisation rétrospective de l'enquête Emploi à une fréquence mensuelle : apport d'une modélisation espace-état

G2013/02-F1302 C. TREVIEN
Habiter en HLM : quel avantage monétaire et quel impact sur les conditions de logement ?

G2013/03 A. POISSONNIER
Temporal disaggregation of stock variables - The Chow-Lin method extended to dynamic models

G2013/04 P. GIVORD - C. MARBOT
Does the cost of child care affect female labor market participation? An evaluation of a French reform of childcare subsidies

G2013/05 G. LAME - M. LEQUIEN - P.-A. PIONNIER
Interpretation and limits of sustainability tests in public finance

G2013/06 C. BELLEGO - V. DORTET-BERNADET
La participation aux pôles de compétitivité : quelle incidence sur les dépenses de R&D et l'activité des PME et ETI ?

G2013/07 P.-Y. CABANNES - A. MONTAUT - P.-A. PIONNIER
Évaluer la productivité globale des facteurs en France : l'apport d'une mesure de la qualité du capital et du travail

G2013/08 R. AEBERHARDT - C. MARBOT
Evolution of Instability on the French Labour Market During the Last Thirty Years

G2013/09 J-B. BERNARD - G. CLÉAUD
Oil price: the nature of the shocks and the impact on the French economy

G2013/10 G. LAME
Was there a « Greenspan Conundrum » in the Euro area?

G2013/11 P. CHONÉ - F. EVAIN - L. WILNER - E. YILMAZ
Introducing activity-based payment in the hospital industry : Evidence from French data

G2013/12 C. GRISLAIN-LETRÉMY
Natural Disasters: Exposure and Underinsurance

G2013/13 P.-Y. CABANNES - V. COTTET - Y. DUBOIS - C. LELARGE - M. SICSIC
French Firms in the Face of the 2008/2009 Crisis

G2013/14 A. POISSONNIER - D. ROY
Households Satellite Account for France in 2010. Methodological issues on the assessment of domestic production

G2013/15 G. CLÉAUD - M. LEMOINE - P.-A. PIONNIER
Which size and evolution of the government expenditure multiplier in France (1980-2010)?

G2014/01 M. BACHELET - A. LEDUC - A. MARINO
Les biographies du modèle Destinie II : rebasage et projection

G2014/02 B. GARBINTI
L'achat de la résidence principale et la création d'entreprises sont-ils favorisés par les donations et héritages ?

G2014/03 N. CECI-RENAUD - P. CHARNOZ - M. GAINI
Évolution de la volatilité des revenus salariaux du secteur privé en France depuis 1968

G2014/04 P. AUBERT
Modalités d'application des réformes des retraites et prévisibilité du montant de pension

G2014/05 C. GRISLAIN-LETRÉMY - A. KATOSSKY
The Impact of Hazardous Industrial Facilities on Housing Prices: A Comparison of Parametric and Semiparametric Hedonic Price Models

G2014//06 J.-M. DAUSSIN-BENICHOU - A. MAUROUX
Turning the heat up. How sensitive are households to fiscal incentives on energy efficiency investments?

G2014/07 C. LABONNE - G. LAMÉ
Credit Growth and Capital Requirements: Binding or Not?

G2014/08 C. GRISLAIN-LETRÉMY et C. TREVIEN
The Impact of Housing Subsidies on the Rental Sector: the French Example

G2014 09 M. LEQUIEN et A. MONTAUT
Croissance potentielle en France et en zone euro : un tour d'horizon des méthodes d'estimation

G2014/10 B. GARBINTI - P. LAMARCHE
Les hauts revenus épargnent-ils davantage ?

G2014/11 D. AUDENAERT - J. BARDAJI - R. LARDEUX - M. ORAND - M. SICSIC
Wage Resilience in France since the Great Recession

G2014/12 F. ARNAUD - J. BOUSSARD - A. POISSONNIER - H. SOUAL
Computing additive contributions to growth and other issues for chain-linked quarterly aggregates

G2014/13 H. FRAISSE - F. KRAMARZ - C. PROST
Labor Disputes and Job Flows

G2014/14 P. GIVORD - C. GRISLAIN-LETRÉMY - H. NAEGELE
How does fuel taxation impact new car purchases? An evaluation using French consumer-level dataset

G2014/15 P. AUBERT - S. RABATÉ
Durée passée en carrière et durée de vie en retraite : quel partage des gains d'espérance de vie ?

G2015/01 Aurélien POISSONNIER
The walking dead Euler equation
Addressing a challenge to monetary policy models

G2015/02 Y. DUBOIS - A. MARINO
Indicateurs de rendement du système de retraite français

G2015/03 T. MAYER - C. TREVIEN
The impacts of Urban Public Transportation: Evidence from the Paris Region

G2015/04 S.T. LY - A. RIEGERT
Measuring Social Environment Mobility

G2015/05 M. A. BEN HALIMA - V. HYAFIL-SOLELHAC
M. KOUBI - C. REGAERT
Quel est l'impact du système d'indemnisation maladie sur la durée des arrêts de travail pour maladie ?

G2015/06 Y. DUBOIS - A. MARINO
Disparités de rendement du système de retraite dans le secteur privé : approches intergénérationnelle et intragénérationnelle

G2015/07 B. CAMPAGNE - V. ALHENC-GELAS - J.-B. BERNARD
No evidence of financial accelerator in France

G2015/08 Q. LAFFÉTER - M. PAK
Élasticités des recettes fiscales au cycle économique : étude de trois impôts sur la période 1979-2013 en France

G2015/09 J.-M. DAUSSIN-BENICHOU, S. IDMACHICHE, A. LEDUC et E. POULIQUEN
Les déterminants de l'attractivité de la fonction publique de l'État

G2015/10 P. AUBERT
La modulation du montant de pension selon la durée de carrière et l'âge de la retraite : quelles disparités entre assurés ?

G2015/11 V. DORTET-BERNADET - M. SICSIC
Effet des aides publiques sur l'emploi en R&D dans les petites entreprises

G2015/12 S. GEORGES-KOT
Annual and lifetime incidence of the value-added tax in France