How is consumption of the young and the elderly financed?
Evolution over the last 30 years

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1. Introduction

The intergenerational distributions of income and public resources are recurring issues in many countries public debates. In France, the economic slowdown, growth of public debt, and uncertainty regarding the long-term sustainability of the pay-as-you-go pension system take center stage in intergenerational debates. Some authors suggested an increasing inequality between generations over the last decades, articulating the emergence of so-called ''golden'' generations that benefited from economic growth between 1950 and 1970 and who did not modify their consumption behaviors after the economic slowdown at the expense of later generations (Chauvel, 1998; Kotlikoff and Burns, 2012). It is however difficult to compare the situation of individuals of different ages as the entire lifecycle profile should be taken into account. Moreover, the low income level of young workers compared to those of senior workers or even retirees may be offset by, for instance, downward family transfers. A detailed picture of the various economic flows between ages over the life course seems then very useful to better ground this debate. The quantified analysis of the economic flows between generations needs to be used. The National Transfer Accounts (NTA), whose approach is presented by Lee and Mason (2011), provide a complete analysis describing the resource allocation process at each age. The basic concept is the lifecycle deficit, defined as the difference at each age between consumption and labour income. Even if consumption gives only a partial account of the reality of welfare, it could be used as a fruitful indicator of comparison between generations. The lifecycle deficit indicates the ages in life where resources obtained from labor are not sufficient to cover consumption needs. NTA have been computed for France over the 1979 to 2005 period (d'Albis *et al.*, 2015). They highlight both the relative equality of consumption between ages and an increase in consumption profiles (compared to the 30-49 labour income) between 1979 and 2005. Such an evolution is different from the income profiles that are distorted in favour of the oldest workers.

While extending the period covered for the analysis till 2011, by using a new available database, the second step of the research lies in the understanding of the funding of this consumption and its

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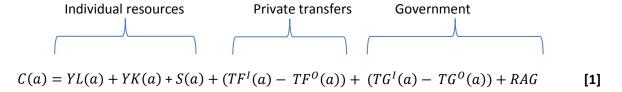[9] Université Paris 8. E-mail: jacques.pelletan@univ-paris8.fr

evolution over the period considered. Consumption is a good indicator, even not a perfect one, of well-being. The aim of this article is to analyse economic flows from a generational perspectives and to measure the relative consumption of the elderly compared to the young and the way it is financed : through public sector (public transfers), through the family (private transfers) or through the market ((dis)savings) ?

2. Data and method

We follow the methodology of the NTA, as described in the latest version of the Reference Manual (UN, 2013). Consumption and labour income profiles by gender are first constructed in two steps. First, the construction of the basic profiles by gender relies on the combination of two elements: Survey data to determine the average profiles by age for selected flows (consumption and income) by sex ; aggregates calculated from the national accounts to adjust each age profile to the total value of the flow considered in the economy for a given date. Indeed, the macro accounting identity which indicates that the sum of consumption, savings and transfers is equal to the sum of labour and financial incomes should be fulfilled.

For private consumption, the age profiles are distinguished in three components (education expenditure, health expenditure and other expenditure including imputed rents), obtained from the Family Budget Surveys (*Enquêtes Budget des Familles;* 1978-1979, 1984-1985, 1989, 1994-1995, 2000-2001, 2005-2006 and 2010-2011). Age profiles of labour income (wages and income from self-employed) are also constructed from the Family Budget Surveys. Public education consumption profiles are calculated for each year from the education account (*Comptes de l'éducation*), which is a satellite account of the national accounting system. The data used to determine the number of students at each age and level of education are taken from the National Institute of Statistics (INSEE) and / or the Ministry of National Education. It is assumes that individual public consumption is the same for all the students of a given level. Public health expenditure profiles are estimated using data from the French Permanent Sample of the Socially Insured (*Echantillon Permanent d'Assurés Sociaux*), based on a sample of nearly 80,000 insured persons under the scheme for employees for the years 2000, 2002, 2004, 2006 and 2008. For the years 1992, 1995 and 1997, data are taken from Health and Social Protection surveys (*Enquêtes Santé et Protection Sociale)*. Other public consumption expenditure (defence, justice, etc.) is uniformly distributed over the entire population. The age profile is assumed to be constant.

To make the different sources of consumption funding more visible, we rewrite the original NTA accounting identity (cf. equation 1). An individual's consumption is financed through its own resources (labor market, asset income and saving revenues), from private transfers and from public transfers coming from the government.

Individual resources   Private transfers Government

$$C(a) = YL(a) + YK(a) + S(a) + (TF^I(a) - TF^O(a)) + (TG^I(a) - TG^O(a)) + RAG \qquad [1]$$

C(a) is the total consumption at age *a;* YL(a) labour earnings; YK(a) capital income; S(a) Net Saving ;

$TF^I(a)$: private transfers received ; $TF^O(a)$: private transfers paid ; $TG^I(a)$: public transfers received ; $TG^O(a)$: public transfers paid (taxes)

3. Some first results

D'albis et al (2015) concluded to a slighthly increase of the elderly consumption compared to the other age groupes between 1979 and 2005. It seems that this evolution is confirmed and even more pornounced using the 2011 surveys. Indeed, if the consumption of the elderly was almost eqaul across ages in 1979, in 2011, it is rougly 20 % higher (figure 1)

Figure 1 – Evolution of per capita consumption by age, 1979-2011 period

Computing each term of equation 1, we observe that the consumption of people aged 0 to 25 years old is increasingly financed by the government, especially through the education expenses and family benefits (figure 2).
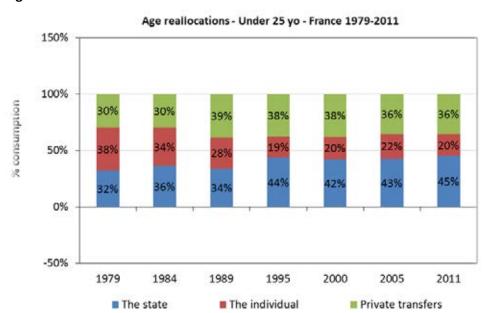
Figure 2

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The situation of the elderly is different. Over the 1979-2011 period, the resources coming from the state for the funding of their consumption is relatively stable.
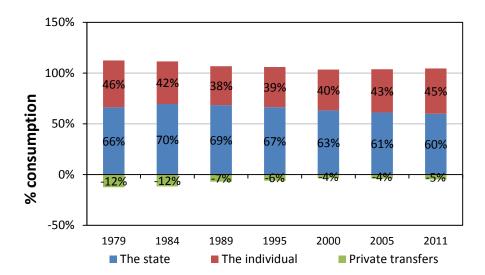
Figure 3 - Age reallocations - 60 yo + - France 1979-2011

A comparison between France and some other countries highlights the specific position of the former with regard to financing consumption for the young. 43 % of the consumption of the young is financed by the government, while this proportion is 35 % in the US and 30 % in Germany. Regarding the elderly, France lies far behind Sweden (figure 4).
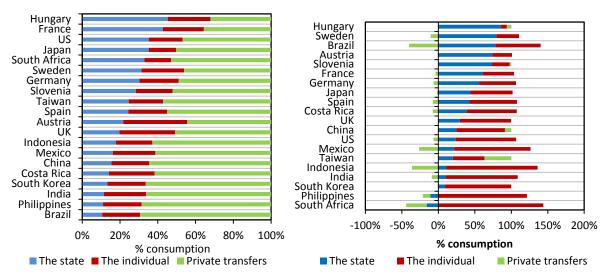
Figure 4 – Age reallocations - Under 25 yo - cross-country comparison

Source: authors' calculations for France and NTA data for other countries (http://www.ntaccounts.org/).

References

Albis (d') H., Bonnet C., Navaux J., Pelletan J., Toubon H., Wolff F.-C. (2015), « The Lifecycle Deficit for France, 1979-2005 », *Journal of the Economics of Ageing*, vol. 5, pp. 79-85.

Donehower G., Lee R., Miller T. (2011), « The changing shape of the economic lifecycle in the United States, 1960 to 2003 Ronald Lee, Gretchen », dans Lee R., Mason A. (eds.), *Population Aging and the Generational Economy: A Global Perspective*, Edward Elgar, Northampton, Massachusetts, pp. 313-326.

Kotlikoff, L.J., Burns, S., 2012. The Clash of Generations. MIT Press

Lai M.S., Tung A-C. (2015), « Who supports the elderly? The changing economic lifecycle reallocation in Taiwan, 1985 and 2005 », *Journal of the Economics of Ageing*, vol. 5, pp. 63-68.

Lee R., Mason A., eds., (2011), *Population Aging and the Generational Economy: A Global Perspective*, Edward Elgar, Northampton, Massachusetts.

United Nations (2014), *National Transfer Accounts manual: Measuring and analysing the generational economy*, Department of Economic and Social Affairs, Population Division.