

Economic Growth and Household Purchasing Power in France: Key Changes Since 1960

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Abstract – In France, recent economic trends have rekindled the feeling of divergence between global economic growth and changes in purchasing power. Long series of national accounts help put this gap in perspective. More so than GDP, the most appropriate indicator for capturing changes in the living conditions of households is gross disposable income (GDI) per consumption unit. Several factors have combined to limit its rise since the 1960s and, despite its recent recovery, it has tended to stagnate over the last decade, as between the late 1970s and the 1980s. Overall, the picture over the past few decades is not one of a steadily rising standard of living. But national accounts do not support the hypothesis of a decline in purchasing power. Two factors may account for its perceived decline: may appear somewhat inconsistent with. However, vertical inequalities have remained relatively stable and parity in living standards between workers and pensioners has been maintained as well. It will be more difficult to achieve such a parity in the future.

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Reminder:

The opinions and analyses in this article are those of the author(s) and do not necessarily reflect their institution's or Insee's views.

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Economic growth and changes in purchasing power are central and recurring themes in social debates. The recent period has been particularly rich in discussions and controversies around trends on both fronts in a context affected by a large number of measures impacting purchasing power with varying effects depending on the population considered. One of these measures has been the shift from unemployment and health insurance contributions towards the CSG (Generalised Social Contribution), with different impacts on workers and pensioners, but also within both categories of population. Changes in indirect taxes on fuel have been another point of concern. Combined with oil price variations, they have weighed heavily on those households most dependent on cars. These changes have contributed to a perceived decline in purchasing power affecting many households.

On top of it, the abolition of the wealth tax on financial assets (in French, *impôt sur la fortune*, or ISF) and the shift from general income taxation and social security contributions to a single flat-rate tax (*prélèvement forfaitaire unique*, or PFU) of 30% on capital gains from the sale of securities have exacerbated further the sensitivity of many French people to the issue of inequality.

Both points – i.e. purchasing power and inequalities – can be confronted to GDP growth. It has remained positive, with a total of 9.5% since 2008 (1.7% for year 2018), a growth from which a majority of households do not feel they have benefited, hence a widespread perception that growth tends to be poorly measured and/or that it benefits some segments of the population more than others.

The aim of this paper is to put these current questionings into perspective by revisiting the links between household income growth and overall economic growth – in the sense of GDP – since the early 1960s. Macroeconomic series reveal findings that ultimately appear largely consistent with household perceptions, contrary to a common view that national accounts tend to be disconnected from changes in the real living conditions of the population.

GDP and Disposable Income: A Re-Examination of the Two Concepts

Some preliminary remarks are necessary to clarify the main concepts addressed in this paper, namely the nature and scope of gross domestic product

and the various possible definitions of the concept of household disposable income.

GDP is an accounting construction that can be defined in several ways, the most relevant for our purposes being to view it as a measure of the net income flows generated by the productive activities carried out on the national territory, whether market or non-market activities. In accounting terms, GDP corresponds to the product of the volume of work and the apparent productivity of that work. These income flows are known as primary income, and represent the remuneration of the factors of production, capital and labour (whether employed or self-employed) used to produce.

Gross disposable income (GDI) measures what agents are left with to consume or invest after all the taxes for which they are liable (income tax, other taxes and social security contributions) and all the cash transfers they receive have been taken into account. GDI is referred to as “gross” because, like GDP, it does not take into account the depreciation of capital, but it is net of all cash transfer flows. At the level of agents taken in isolation, GDI may differ significantly from primary income. At the level of the economy as a whole, however, the concept is very close to GDP, with the gap corresponding to the flow of production income between France and the rest of the world, including the wages of cross-border workers and incoming and outgoing flows of dividends corresponding to the returns on inward and outward foreign investments.

The national accounts introduce a second definition of household GDI: “adjusted gross disposable income” (AGDI), which includes all in-kind social transfers. In-kind social transfers correspond to individual goods and services provided to households, whether these goods and services are produced by general government agencies (such as public education), purchased on the market and partially reimbursed by general government agencies (such as health care reimbursements in the private sector), or services provided by non-profit institutions serving households (NPISH). For national accountants, the aim of introducing this second definition is to make national consumption levels more comparable between countries by offsetting the impact of the same goods and services being consumed in market or non-market forms in different countries.

Changes in household GDP and primary income, as well as changes in the purchasing power of their GDI or AGDI, are the result of a set of mechanisms that are macroeconomic (working

population, general productivity gains, ratio of non-working population to total population, inflation), microeconomic (taxes and social security contributions, rules for the formation of social rights) or institutional (share of the production of non-market services provided by general government agencies). It is the interaction of all these mechanisms that drives the formation and redistribution of income.

GDP and Household Gross Disposable Income in the Long Run

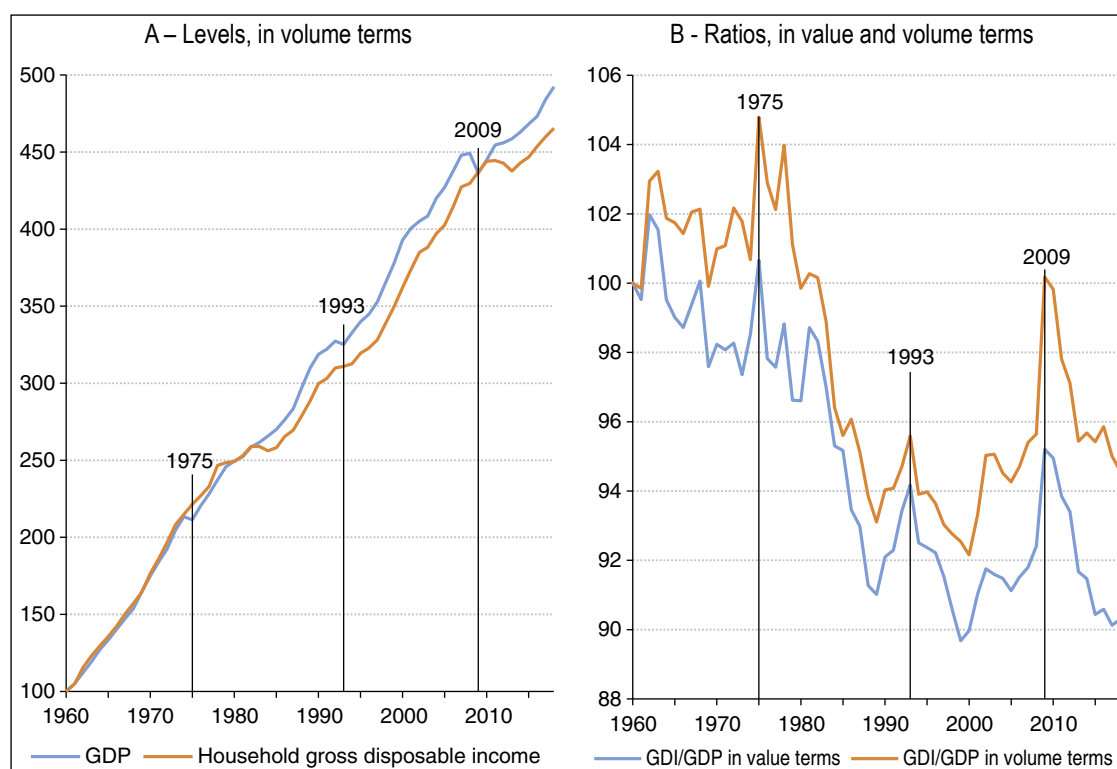
Since 1960, real GDP and the purchasing power of total household GDI have increased more than 4.5-fold (Figure I-A), but with a slightly smaller increase for GDI, with a cumulated gap of around 5% over the entire period, this gap being even more pronounced in nominal terms, of the order of 10% (Figure I-B). The difference between these two gaps reflects the slightly divergent trends between the deflator of GDP and household consumption prices, with a consumer price index affected by the lower growth rate of imported goods prices.

The period was also marked by three recessions, in 1975, 1993 and 2009, conventionally used to distinguish four sub-periods to which we will refer

throughout the article. The first sub-period runs from 1960 to 1974 and corresponds to the second half of the post-war boom known as the “Glorious Thirty Years” – a period during which real GDP and the purchasing power of GDI showed identical trends. The first oil shock put an end to this period and triggered the beginning of a second sub-period initially marked by a more positive trend in GDI compared to GDP, which can be explained by a set of policies designed to support demand initially implemented to accommodate the shock, before the “austerity turn” (in French, the *tournant de la rigueur*) reversed these trends. The purchasing power of GDI fell most sharply during this period, before eventually returning to a trend similar to that of GDP.

The second recession episode marking the beginning of the third sub-period was the one of 1993, with a delayed response of GDI leading to a temporary recovery in the GDI/GDP ratio, albeit on a much smaller scale than in 1975. The gap between GDP and GDI trends was again very pronounced in the wake of the subprime crisis from 2008 onwards. 2008 saw a marked decline in GDP, while GDI continued on the same momentum before slowing down, only experiencing a downward trend in 2012 and 2013, then returned to a trend similar to GDP (Mahieu, 2018).

Figure I
GDP and total household GDI, base 100 in 1960



Sources: Insee, National Accounts.

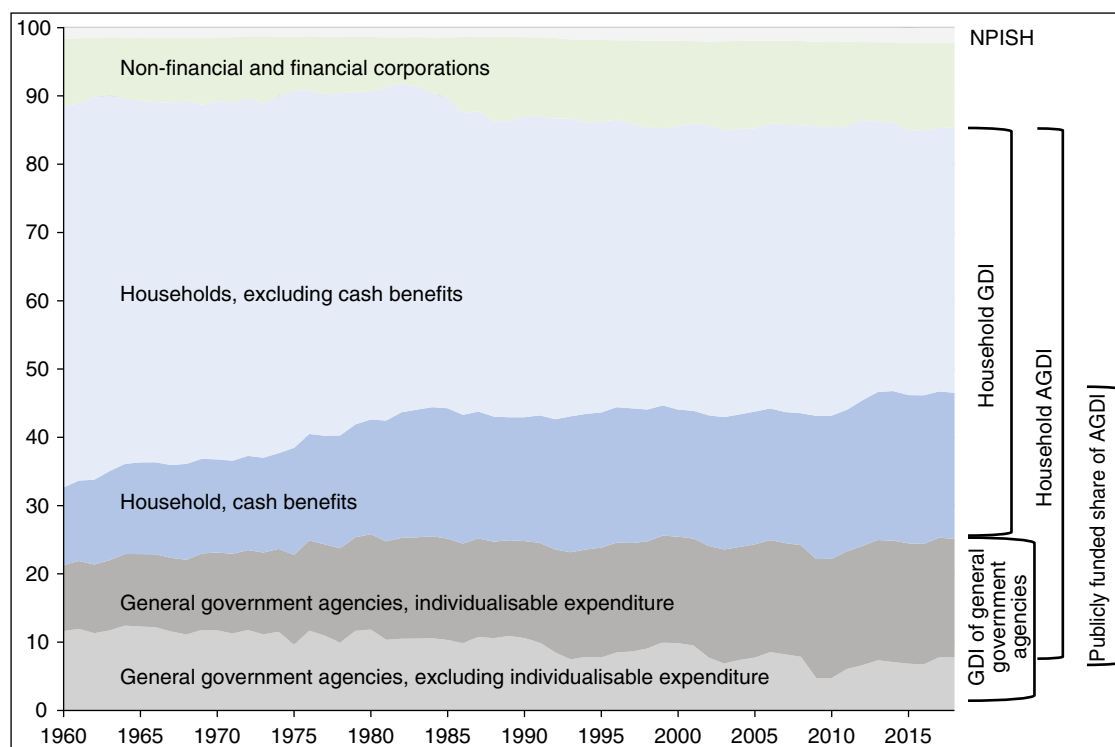
The breakdown of total GDI in nominal terms by category of agent provides a basis for specifying the factors behind the relative decline in household GDI (Figure II). Excluding households, a distinction can be drawn between three groups of agents: companies (non-financial corporations and financial corporations but excluding sole proprietorships whose income is fully incorporated into household income), general government agencies and NPISHs. The share of the latter is marginal and will not be examined further. As far as companies are concerned, GDI represents the amount left over from disposable income to self-finance investment after payment of all expenses, including interest expense and shareholder remuneration. The changes observed in the share of corporate GDI in total GDI parallel those of the margin rate, as measured by the ratio of gross operating surplus to value added. This share remained stable until the first oil shock, before declining after the shock and subsequently rising again to slightly above its pre-1975 level as a result of the austerity measures introduced in the 1980s, after which it remained remarkably stable.

The post-1975 episode, although isolated, is one of the factors contributing to the structural decline in the share of GDI going to households. The decline is also explained by a broader trend

related to the apparent distribution of income and consumption between households and general government agencies. It reflects the increase in public funding allocated to household final consumption, which can be brought to light by isolating two sub-components of the GDI of both households and general government agencies. Within household GDI, a distinction is made between what remains of primary income after taxes and social contributions and what goes to households in the form of cash benefits. The GDI of general government agencies corresponds to the income available to them after payment of these cash benefits. Within their GDI, a distinction can be drawn between what they use to finance the services provided to individuals, that feed into household AGDI, which therefore accrues directly to households, and what is used to finance other public expenditures (corresponding, broadly, to regalian expenses) that ultimately also benefits other agents but would only be allocable among these agents at the cost of very conventional distribution assumptions.

The increase in public funding devoted to household final consumption is observed on both sides of the “border” of their GDI (Figure II). Within this border, the share of GDI composed of cash benefits increased from 11.4% to 21.5%

Figure II
Distribution of total disposable income among the main categories of agents



Sources: Insee, National Accounts.

of the national GDI between 1960 and 2017. While neutral in terms of the level of overall GDI, when it comes to its nature, the change is relatively significant: in 2017, the distribution of GDI between net primary income and cash benefits was two-thirds to one third, vs. 83% to 17% in 1960. An identical trend is observed on the other side of the household GDI border, with the individualizable expenditures (education and health care mostly) of general government agencies rising from 9.6% to 17.4% of the economy's overall GDI. As a consequence, contrary to GDI, AGDI saw its share in the disposable income of the total economy remaining stable and even slightly increasing over the period, rising from 76.9% to 77.7% of overall GDI between 1960 and 2017. The transition to AGDI also erases the long-term impact of the increase in corporate GDI seen during the 1980s. On the other hand, there has been a decline in the income left to general government agencies to finance expenditure other than cash benefits and AGDI, one consequence of which being an increase in the use of public debt.

From Overall GDI to Average Individual GDI

These changes in the distribution of overall GDI represent very significant phenomena. However, overall, the purchasing power of household GDI increased considerably over the entire period, in a proportion very similar to that of GDP. Yet an obvious limitation of GDI thus conceived is that it operates on a macroeconomic level. Measuring global GDI is useful for macroeconomists since its changes are one of the drivers of aggregate demand, itself a determinant of employment trends, and it is precisely because of this that short-term analysts seek to monitor it. However, such changes would provide information on individual purchasing power only if the population remained constant in level and structure over time, which is not the case.

What steps can we take to develop something akin to a concept of individual purchasing power? A first option is GDI per capita. However, while it may be the easiest option to implement, it ignores the fact that living standards also depend on the distribution of the population among households. A second but irrelevant option is to calculate average GDI as a proportion of the number of households. While it may be interesting to know how much each household has at its disposal to live, if households are becoming smaller over time, it is only natural that the GDI of each household should be increasingly lower, without

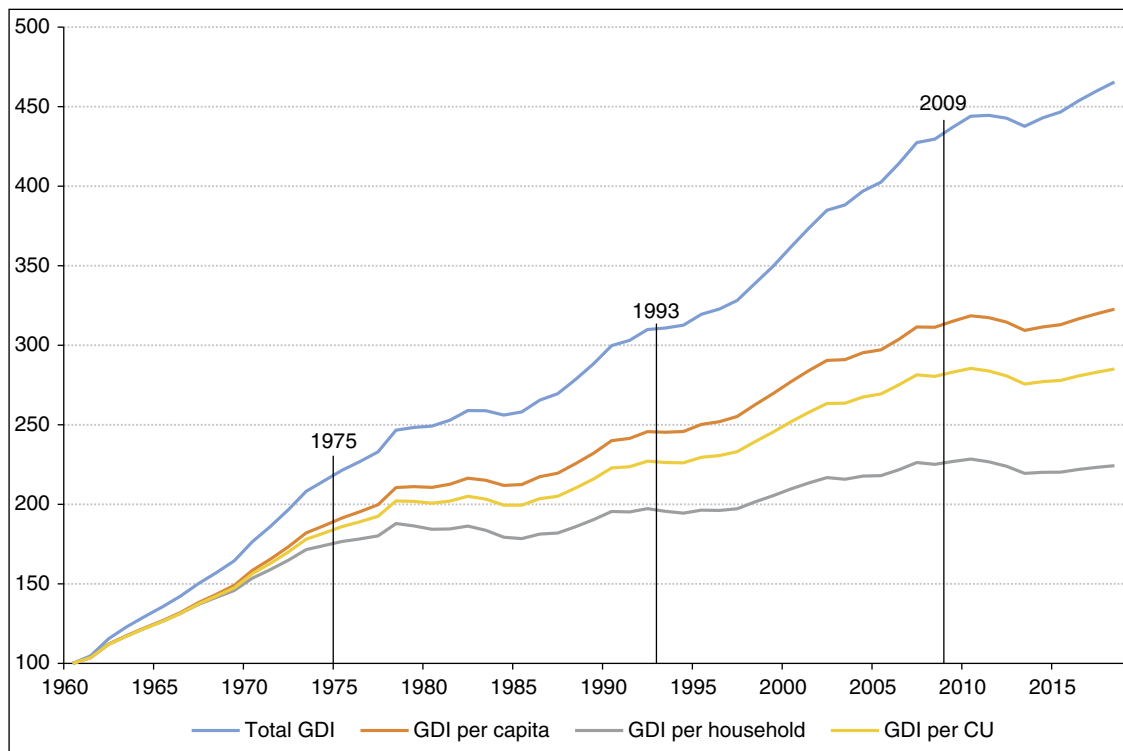
necessarily leading to a lower standard of living. The way living standards are affected by the gathering of individuals into households of varying sizes only goes through the economies of scale that result from living in the same dwelling. This is what is captured by the notion of consumption unit (CU), which weights individuals according to their position in the household. The scale currently used is the so-called "OECD" scale, which assigns one consumption unit to the first adult, 0.5 units to each member aged 14 and over and 0.3 units to any child aged under 14. We may therefore choose to calculate the ratio of GDI to the number of CUs.

The three types of adjustment have a significant downward impact on changes in the purchasing power of GDI (Figure III), from a multiplication of total GDI by 4.5 from 1960, we move to multiplications by 3.2 for the GDI per head, 2.8 with the GDI per CU and 2.2 per household. The intermediate adjustment using the GDI per CU will be preferred. The remaining growth continues to be significant, but shows three periods of stagnation or temporary slowdown, falling in between or following the three negative shocks to GDP seen in 1975, 1993 and 2008: a period of stagnation lasting from 1978 to 1987, a less pronounced slowdown around the 1993 shock and the current period beginning with the subprime crisis, with a level of purchasing power per consumption unit only returning to its 2007 level in 2017, despite a significant recovery at the end of the period.

The transition from GDP to purchasing power per consumption unit can be broken down into several steps to highlight the factors that have driven this purchasing power, upwards or downwards. Several breakdowns of GDI/CU are possible. The breakdown chosen here starts with the contribution of employed people's productivity (i.e. GDP/employment), which almost invariably leads to an increase, the only exceptions being the three years of recession. Then, in order:

- The effect of the employment rate of the labour force (employment/labour force);
- The effect of the overall labour force participation rate, defined as the ratio of that labour force to the age group which, on average over the period, was the most representative of the cohorts participating in the labour market, i.e. the 20-59 age group (labour force/population aged 20-59);
- The demographic effect of the ratio of this age group to the total population (20-59 age group/total population);

Figure III
Overall GDI and alternative measures of GDI at the individual level



Sources: Insee, National Accounts.

- The effect of household composition corresponding to the ratio of the total population to the total number of consumption units (total population/total number of CUs);
- And finally the effect of the distribution of GDP between the GDI of households and other agents, already discussed at the macroeconomic level (GDI/GDP).

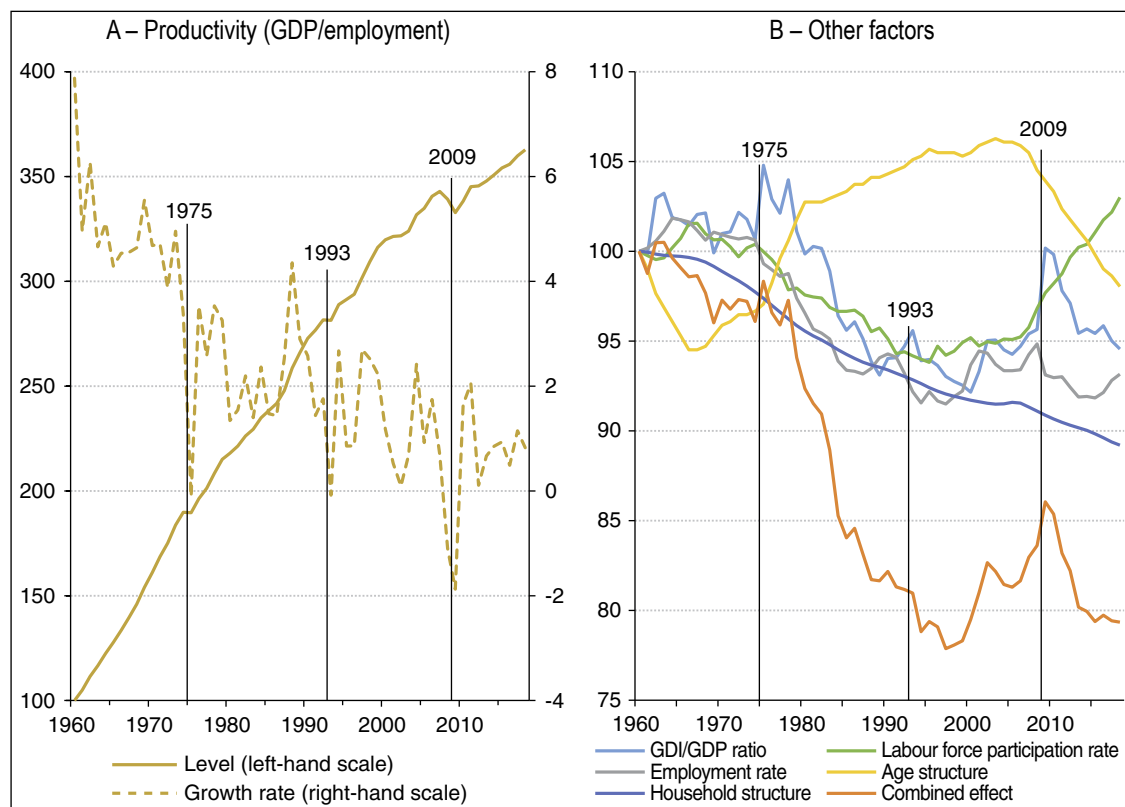
The product of all these effects expressed in base 100 of 1960 gives the change in the GDI/CU ratio. Because of its magnitude, the effect of productivity is displayed separately (Figure IV-A). This is what determines the overall trend towards an increase in living standards. The ratio of GDP to the number of people in employment has increased by a factor of 3.6 since 1960, representing an average annual growth rate of 2.2%, although a gradual slowdown can be seen from one sub-period to the next: 4.5% per year between 1960 and 1974, 2.1% per year between 1974 and 1992, 1.1% between 1993 and 2018 and finally just 0.6% per year since 2008. While the downward trend in productivity is debatable, a number of factors may nonetheless be put forward, including (but not limited to): the end of the post-war adjustment period (the so-called “catch up effect” during the “Glorious Thirties”), reallocations of the economy towards

sectors structurally less inclined to generate productivity gains (typically the transition from a manufacturing economy to a service economy), the hysteresis effect caused by the destruction of capital during recessionary periods (1974, 1993, 2008) and the deterioration in the allocative efficiency of production factors (reduced mobility of production factors, particularly labour, deterioration in the quality of economic policy).

Other factors played a much smaller role, within a range of between -20% and +10% cumulatively over the entire period.

The effect of household composition has tended to be downward, cutting the standard of living by around 10 points over the whole period. The effect of the dependency ratio shows a more contrasting trend. At the beginning of the period, it had a negative impact on living standards because of the high annual birth rate, the effect of which was to increase the number of young dependents. The birth rate then fell from 1975 onwards, reflecting the end of the “baby boom” era. In addition, between 1975 and 1980, the transition to retirement of the baby-bust generations born during World War I, totalling roughly half the size of the generations immediately before

Figure IV
Determinants of GDI per consumption unit



Sources: Insee, National Accounts and long employment and labour force series; authors' calculations.

and after them, meant far fewer transitions from employment to retirement, resulting in a more dynamic working-age population and a less dynamic retirement-age population. The ratio of working-age population to total population thus increased sharply over this five-year period, before plateauing until 2006, when an opposite phenomenon started to take effect: the beginning of the transition to retirement of large generations of baby boomers, a trend that is expected to continue until the mid-2030s.

The effect of the employment rate is the reverse of the evolution of the unemployment rate, increasing especially during the period of rising mass unemployment from the mid-1970s to the 1990s. The effect was to cut GDI/CU by around 9% compared to what it would have been with the near-zero unemployment rate of the early 1960s, but which is obviously no longer a credible benchmark since this was a period when the labour market and unemployment insurance operated very differently to what they have become today. Full employment corresponds to an unemployment rate of around 5%, if we refer to the levels achieved in a relatively large number of comparable countries, but with the possibility

of negative resulting effects on apparent labour productivity insofar as unemployment has a greater impact on the least productive workers.

The effect of the labour force participation rate is more irregular, mixing upward trends (increase in the female participation rate) and downward trends (increase in the duration of studies) and significant fluctuations covering almost the entire period. Its first phase, which began in the late 1960s, went hand-in-hand with the implementation of Malthusian policies aimed at reducing unemployment by reducing labour supply, achieved mostly through early retirement policies and the lowering of the normal retirement age. These policies were subsequently reversed in the 1990s, and markedly so in the case of early retirement, with the employment rate of the 55-59 age group returning almost to the levels seen in the 1970s, while the increase in the normal retirement age, mainly affecting the participation rate of the 60-64 age group, was also a significant factor despite being more gradual.

Combined with the impact of the macro distribution of GDP between household GDI and that of other agents whose profiles have been discussed

above, the combined result of the four effects was a decline in GDI/CU of around 20% compared to GDP per worker employed, with the bulk of the decline occurring during the period from the first oil shock to the late 1990s.

From Average Individual GDI to GDI by Living Standard Groups

The evidence pointing to GDI per CU stagnating over the past ten years largely provides a basis for reconciling the messages about overall economic growth and perceived standard of living: the former has remained positive despite seeing a very sharp slowdown, and its positive effects had to be distributed among households comprising a growing non-working population and of smaller size, thereby limiting the benefits of the economies of scale enjoyed by larger households. The two phenomena are not unrelated since the reduction in average household size is also partly a result of demographic ageing, even if it cannot be reduced to it. The increase in the labour force participation rate was significant but not sufficient to offset these two underlying trends. Finally, over the past decade, the perception that purchasing

power has stagnated has been further amplified by the up and down movement that affected the share of household GDI in the GDP or the GDI of the economy as a whole. Household GDI did not immediately adjust to the 2009 production shock. The adjustment, which occurred later, was more abrupt.

Nevertheless, aside from these cyclical episodes, GDI per consumption unit does not point to a downward trend in living standards. If such is the perception, other factors must be taken into account. One such factor could be the fact that the price measure used to deflate nominal GDI tends to underestimate real increases in prices and the cost of living. However, this thesis is based on a common confusion between the two concepts: the price index is aimed at measuring changes in baskets of goods providing a constant service over time (Box) and does not take into account changes in consumption standards that mean that people are no longer satisfied with the standard basket consumed some 50 years ago. The concept of perceived standard of living mixes these two dimensions. Determining by how much purchasing power increased between two dates and establishing the extent to which households

Box – Price and Cost of Living, Purchasing Power and Well-Being: Fifty Years of Controversy and Some Clarifications

What meaning should we give to the notion of a rise in purchasing power over the long term? What is meant by the fact that it appears to have increased 2.8-fold between 1960 and today? The measure of nominal income raises no major issues, involving direct and relatively reliable observations. The debate is over price measurement and its connection with the broader concept of cost of living. This is a long-standing debate, with several key moments over the last fifty years (Touchelay, 2014; Jany-Catrice, 2018, 2019). The suspicion that price increases tend to be underestimated was particularly strong during the period of high inflation in the 1970s. It was then revived by the changeover to the euro in 2002 – a changeover that had the lasting effect of widening the gap between perceived and measured inflation. Many avenues have been investigated to account for this discrepancy (Accardo *et al.*, 2011), and two reports published in the late 2000s proposed to remedy the gap by broadening the range of indices put forward by Insee. It was during this period that the notion of constrained expenditure was put forward, as was the idea of communicating both on a global GDI and on GDI per consumption unit (Quinet & Ferrari, 2008; Moatti & Rochefort, 2008).

But there is also the suspicion of an inverse bias of overestimation of price increases and, therefore, an underestimation of growth. This suspicion was expressed in the US in the late 1990s by the Boskin Report, the implications of which are discussed by

Lequiller (2000) for France. It has re-emerged in recent years with the debate around the mismeasurement of growth. The thesis is that the statistical system underestimates the contribution to the standard of living of new forms of production made possible by the development of the digital economy or, more generally, by the renewal of goods and services as a whole (Blanchet *et al.*, 2018). In France, this position is illustrated by the work of Philippe Aghion (Aghion *et al.*, 2018).

Behind all these debates and questions, there are often differences of opinion on what is the object of measurement. Measuring prices or living standards are complex subjects that can be approached in several ways. It is therefore important to clarify the object of the discussion.

The basic approach to measuring prices takes economies as given, without any consideration for the renewal or diversification of the goods produced and consumed. In this framework, there are two radically different ways of measuring price changes between two dates: the Laspeyres index and the Paasche index, which weight price changes between two dates by the quantities of goods consumed either in the first period or in the second period. Let us consider the Laspeyres index. What the index measures, and the resulting concept of purchasing power, can be interpreted very simply. The price index tells us by how much the nominal income must be increased in order to be able to consume the →

Box (contd.)

same quantities of goods between the first and the second period. If the index increased by 10% between the two periods, and if the nominal income increased by 30%, the implication would be that purchasing power increased by 130/110, i.e. an increase of around 20%: the new nominal income means a consumer is able to buy 20% more of everything that he or she purchased in the first period, in identical proportions.

However, this approach raises two problems. The first is that it is clearly not applicable if the list of goods changes over time: buying 20% more of all the items purchased in the first period makes no sense if some of these goods have disappeared and been replaced by others. The second problem is that even if the list of goods remains unchanged, the index ignores the fact that, in the face of variable price increases, households may redeploy their spending in a way that serves to limit the decline in living standards, at least for those goods that are substitutable for each other. This was one of the points highlighted by the Boskin Report.

The Paasche index takes into account all these redeployments since it considers the consumption structure of the second period, taking into account behavioural adjustments. But this goes too far in the other direction. Let us suppose, for example, the borderline case of a good whose price increases to such an extent that consumers stop purchasing it. While a loss of purchasing power would obviously occur, the Paasche weighting would ignore the price increase. Therefore, the truth must lie somewhere in between the messages delivered by the Laspeyres and Paasche indices. Moreover, the Paasche index is by no means better suited than the Laspeyres index when the list of goods changes over time.

Chaining has gradually emerged as a response to these two problems, becoming systematic since the 1993 edition of the System of National Accounts. By reviewing the list of goods and their weightings annually, both the renewal of goods and the effects of gradual substitution between these goods, whether substitutions between permanent goods or between successive generations of goods are taken into account. In doing so, we enter the realm of another family of price indices, the constant utility price indices (CUP; see Magnien & Pougard, 2000; Berthier, 2003; Clerc & Coudin, 2010; Sillard, 2017), theorised since the 1930s under the alternative name of COLI or cost-of-living index (Konus, 1930). A CUP does not measure the cost of maintaining exactly the same level of consumption of each good, but rather the cost of maintaining the utility provided by the reference basket of goods over time, incorporating redeployment between existing products or new products. In broad terms, therefore, the measurement of prices over time by a CUP tells us by how much nominal budgets have to change to maintain the same level of services or utility in the face of a changing set of goods and associated prices. The increase in purchasing power is the difference between the increase in monetary income and the increase of the constant utility budget.

However, the extent to which substitution effects should or should not be taken into account remains a matter of

debate. More generally, the notions of CUP and COLI have been criticised for making the concept of price index more opaque (Jany-Catrice, 2019). There has also been some reluctance among price statisticians themselves to use the term COLI explicitly since it can lead to confusion with a broader view of the concept of cost of living, which is generally the understanding of the concept found among the general public, which tends to focus on a concept of price that measures changes in the cost of the basket consumed on a “regular” basis by different types of households. The term ‘constant utility price index’ also has the disadvantage of suggesting a close connection between measures of living standards and well-being, which is precisely what national accountants seek to avoid.

However, these arguments do not provide sufficient grounds for abandoning this conceptual framework. On the contrary, we may argue that the framework helps to better explain the connections between the main interpretations of the concept of cost of living (Triplett, 2001).

In this case, a distinction can be made between two definitions of the concept of cost of living. The CUP and COLI are measures of the cost of living premised on two crucial assumptions that clearly define their scope: the first assumption is that preferences remain stable over time, while the second assumption is that the socio-economic environment in which individuals’ choices are made also remains stable. Let us suppose that the level of demand rises to obtain a given level of satisfaction, or let us suppose a change in the external environment that requires additional expenditures. These effects will not be captured by the CUP, despite the fact that they all serve to increase the cost of living – in the broad sense, i.e. the sense in which the concept is generally understood by the public. It is this type of increase that can be measured, for example, by standard budgets that evolve over time: the spending needed to lead a life in line with the times is clearly not what it was in 1960. The use of the notion of constrained expenditure or its proxy, “pre-committed” expenditure, is based on the same idea.

A similar distinction can be drawn between the measurement of purchasing power, or living standards, and the measurement of the broader notion of well-being. Perceived well-being depends not only on objective consumption options, but also on both consumption standards, which are in constant evolution, and factors outside market exchanges that are not taken into account by standard price and income measures. Some of these external factors contribute positively to the standard of living, such as the provision of non-market public services, and this is precisely what AGDI seeks to capture. However, other general environmental factors impact negatively on the quality of life at a given level of monetary income and market prices.

This analytical framework may also help to clarify the ongoing debates over the mismeasurement of growth. These debates only make sense if we have a common definition of what we want to measure. If it is a CUP or a COLI that is being measured, the question is to check to what extent price statisticians are able to approach this benchmark. For example, statisticians generally →

Box (contd.)

assume that, in periods of coexistence on the market, the prices of the goods of successive generations are in price ratios that reflect their marginal utilities. In principle, this overlaps with the CUP approach. We can explore the extent to which this hypothesis is valid.

This framework also provides guidance on how to handle the case of new goods that are free of charge, which do not naturally fall within the scope of national accounts. The emergence of free substitutes for paid goods may be seen as a borderline case of price decline and can be approached using a constant utility approach: in the case of free goods, the question for purchasing power is to measure by how much nominal income must vary in order to benefit from the same quality of service in the absence or presence of such free goods (Brynjolfsson *et al.*, 2019). Moreover, the same kind of approach can be used, if desired, to improve the valuation of the other form of non-market goods in the accounts, namely public services.

However, we see, by contrast, how a better consideration of these new goods can fail to answer the question of trends and changes in well-being. For example, the

analytical framework developed by Aghion *et al.* (2018) to demonstrate the underestimation of growth uses a representation of consumer preferences that assigns intrinsic value to the diverse range of goods offered to consumers (Khder & Lee, forthcoming). Yet it can also be argued that the multiplication of goods and services offered is precisely a factor in the evolution of preferences that serves to limit the scope of the “constant utility” approach.

Overall, the aim is not to define a single criterion for measuring living standards, but to clarify what each proposed or manageable index actually measures. The concept of the purchasing power of gross disposable income used in the national accounts focuses on a specific field – covering the field of goods and services falling within the scope of monetary exchanges – and quantifies the ability to obtain a basket of such goods that provides a service which remains roughly constant from one period to the next, with a structure of preferences that remains largely unchanged. Other approaches can then be proposed to enrich or correct this measure by taking into account other dimensions of living conditions.

translate this increase in terms of perceived standard of living represent two equally valuable, but fundamentally different, exercises. It is the former that is of interest here.

The other explanation is that an average stagnation necessarily conceals a mixture of individual downward and upward trends¹: the negative perception of the former would outweigh the positive perception of the latter. This factor undoubtedly plays a role at the micro level.

On the other hand, a secondary explanation of the perception is that average stagnation conceals a trend towards rising inequality. These inequalities may be considered according to different axes. Only two of these axes will be considered here: the vertical axis, which compares the changes in the standard of living of the least well off and the most well off, and the age axis, which is worth isolating given the role that the effects of demographic structure have played over the period and given that a major focus of recent debates over purchasing power has been the question of the relative purchasing power of pensioners.

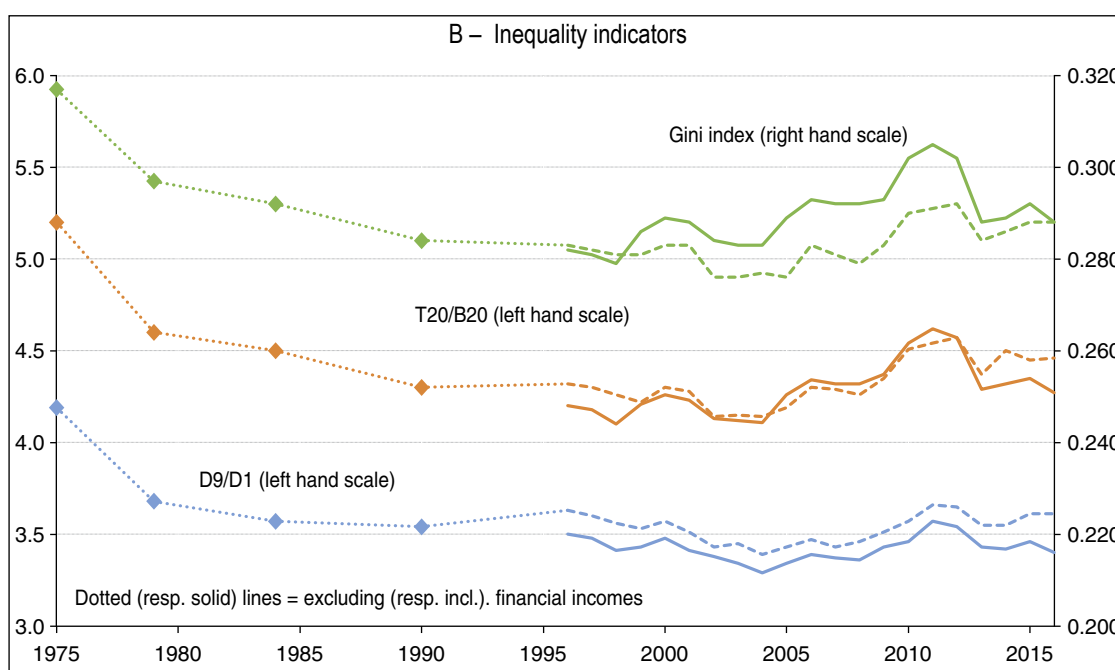
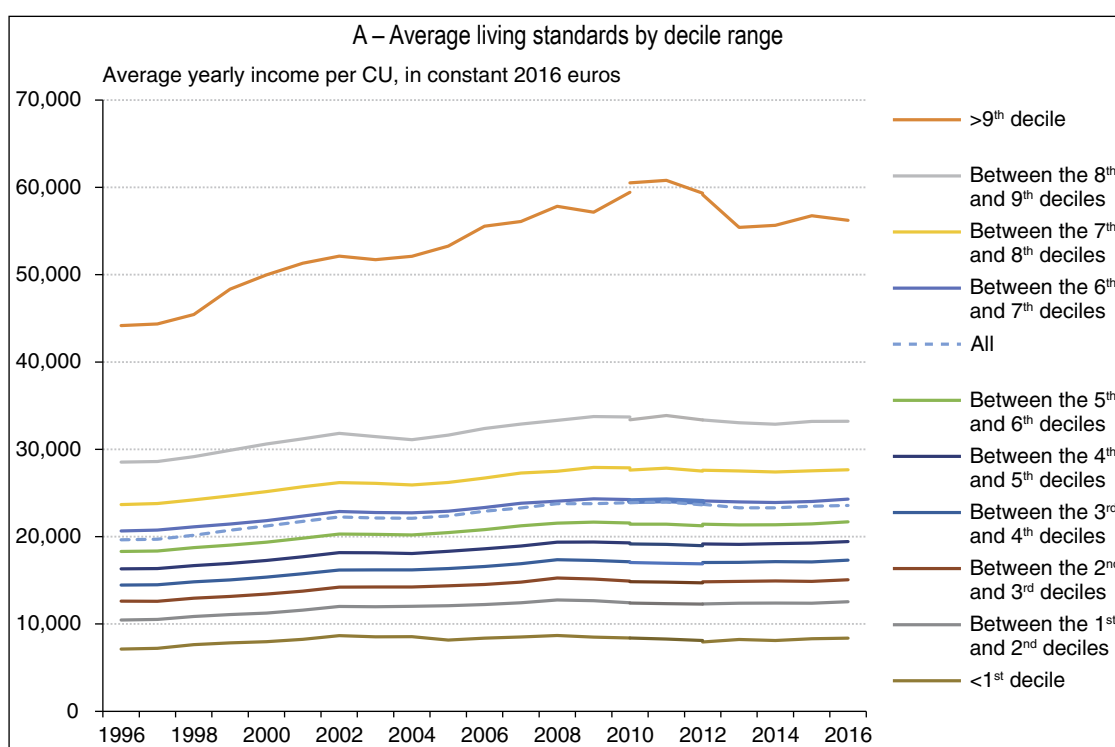
In either case, going beyond the average requires looking at data other than those provided by national accounts, the one provided by household income statistics. The main source in France is the *enquête Revenus fiscaux et sociaux*, ERFS (or Tax and Social Incomes Survey), which uses a

slightly different definition of GDI, in particular because it excludes the imputed rents of owner-occupied dwellings and is also limited to metropolitan France. However, the average changes are very similar. Figure V-A shows the change in the average standard of living and within ten interdecile ranges since 1996. Figure V-B shows various resulting inequality indicators since 1975: the ratio between the level above which we find the richest 10% and below which we find the poorest 10% (interdecile ratio D9/D1), the ratio of average living standards for the top and bottom 20% (ratio T20/B20) and also the Gini coefficient.

Over the period 1996 to 2016, the change in the average standard of living of the entire population was very similar to the changes in GDI per consumption unit reported in the national accounts, and the trends are roughly parallel for the different standard of living ranges. Thus, the interdecile ratio D9/D1 changed little over the period as a whole. However, the gaps are more pronounced if we look at the average living standards of the upper and lower deciles, with a stagnation in living standards starting a little earlier for the most disadvantaged decile (from the beginning

1. According to Accardo (2016), over the course of one year, around 25% of individuals see their income improve by 10% or more, while the same proportion see their income decrease by 10% or more.

Figure V
Distribution of living standards



Sources: Insee-DGI, *enquêtes Revenus fiscaux* from 1975 to 1990; Insee-DGI *enquêtes Revenus fiscaux et sociaux* retropolated from 1996 to 2004; Insee-DGFIP-Cnaf-Cnav-CCMSA, *enquêtes Revenus fiscaux et sociaux* from 2005 to 2016.

of the 2000s), and a relatively marked rise in the living standards of the former until the beginning of the 2010s, before a decline attributable to the changes to capital taxation introduced in 2013: their introduction into the common income tax scale is likely to have led to a change in the way shareholders are remunerated, with a decline in the

share of profits directly distributed to households in favour of other forms of indirect remuneration to shareholders, including reinvestment of income in the company and share repurchases increasing the value of shareholder portfolios. An increase in corporate GDI is observed during the same period. A systematic redistribution of corporate

GDI to households in proportion to the shares held by households may neutralise some of the effects of tax optimisation, as proposed in the Distributional National Accounts methodology (Alvaredo *et al.*, 2016).

In any case, with or without this neutralisation, the rise in inequality over the period remains far more limited than in most other developed countries and is far from bringing back the levels of inequality that prevailed in 1975 (Blasco & Picard, 2019). The increasing public contribution to, or socialisation of, household GDI discussed above certainly contributed to the decline in inequality in the first half of the period and to the fact that it remained contained in the second half.²

The Distribution of GDI between Workers and Pensioners: Towards the End of the *Status Quo*?

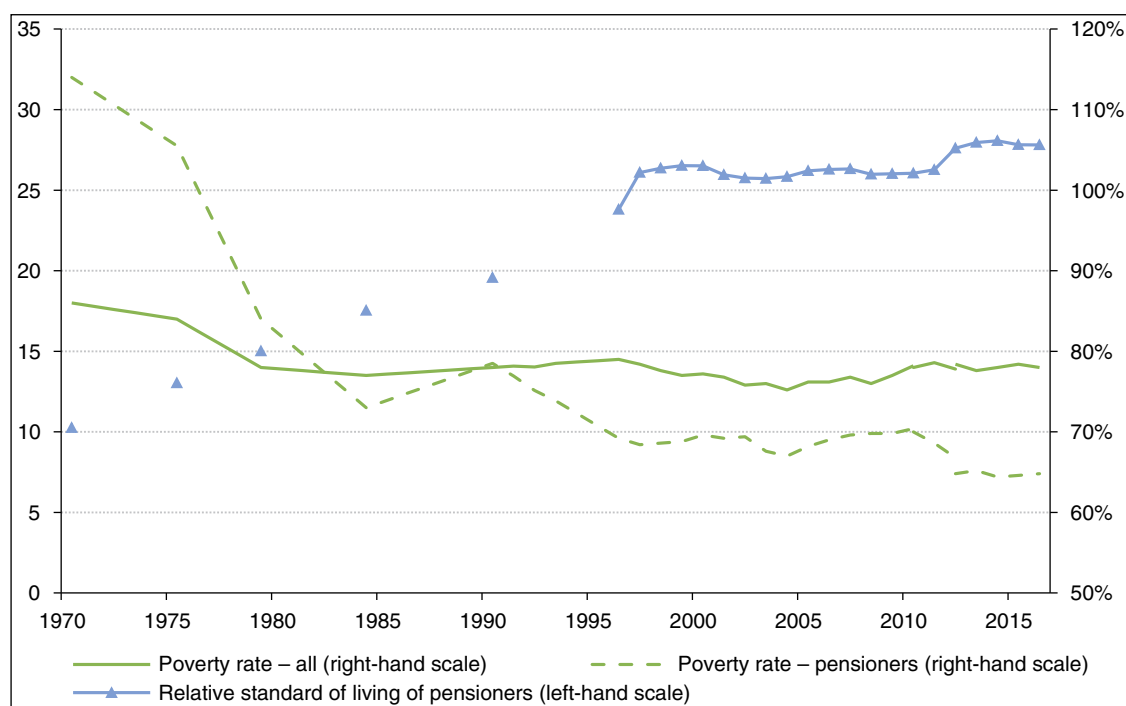
What about the age axis or, more specifically, the distinction between households whose reference person is retired and the population as a whole? Since 1996, the living standards of the two categories have been very similar (Figure VI). Of course, the observed parity in living standards is only true

on average and by taking into account the number of consumption units within households. Pensions are on average lower than earned income, although retired households are smaller than younger ones. The level of pensions also varies widely, reflecting wage inequalities and career differences throughout working life. However, they provide more effective protection against the risk of poverty than for the population as a whole, a situation that contrasts sharply with the prevailing situation in the early 1970s, before the implementation of policies designed to enhance rights that simultaneously increased the relative standard of living of pensioners and reduced their poverty rate below that of the population as a whole (Blasco & Labarthe, 2018; Conseil d'orientation des retraites, 2019).

These policies, combined with the lowering of the statutory retirement age, have led to a sharp increase in the share of the provision for old-age/survival as a proportion of GDP (Figure VII), from 5 to 14 percentage points of GDP. They

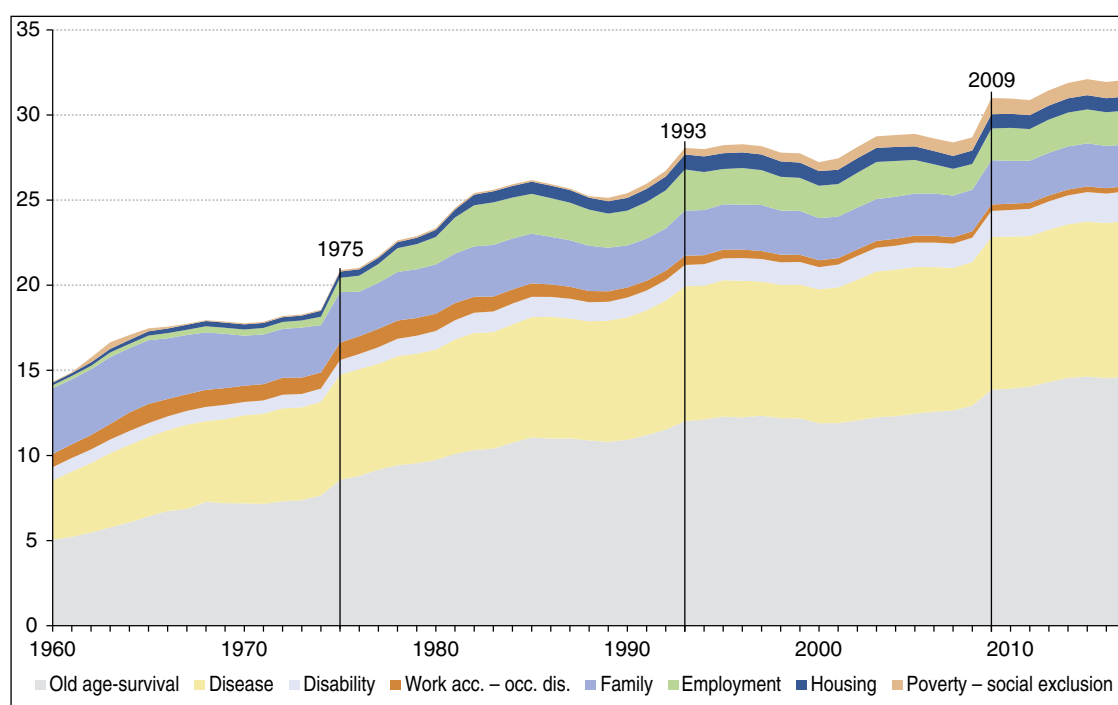
2. Over the period 1990-2015, with the allocation of undistributed corporate profits to households and a slightly different indicator, the ratio of the average income of the richest 10% to the poorest 50%, Bozio *et al.* (2018) indicate near stability in France (with the ratio fluctuating around 5) and an increase of nearly 50% in the United States, with the ratio rising from 8 to just under 12.

Figure VI
Relative standard of living and poverty rate of pensioners



Sources: Insee-DGI, *enquête Revenus fiscaux et sociaux* retropolated from 1996 to 2004; Insee-DGFIP-CNAF-CNAV-CCMSA, *enquête Revenus fiscaux et sociaux* from 2005 to 2016. Series breaks in 1996, 2010 and 2012.

Figure VII
Social expenditure as a percentage of GDP



Sources: Drees, Social Protection Accounts.

were one of the main factors driving the increase in the publicly funded share of household GDI observed above. At this stage, the progress seen has only been slowed down by the reforms introduced since the early 1990s: although significant, the increase in the retirement age has not been sufficient to offset the increase in the share of people aged 60 and over and the increase in the rights accumulated by generations increasingly enjoying full careers.

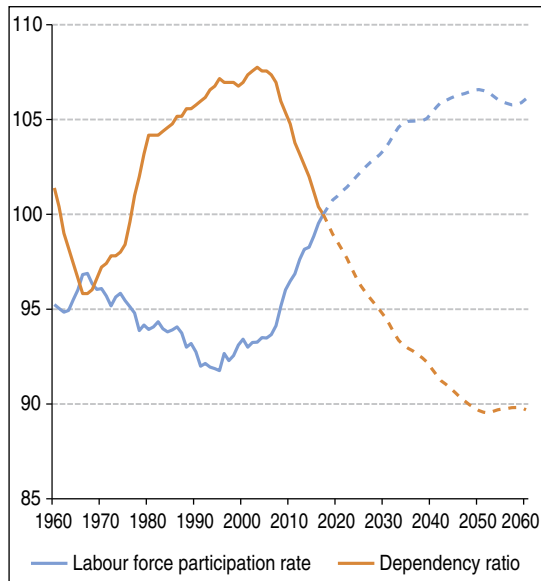
The Future of Purchasing Power: Some Questions

Of all the matters presented here, the issue of pensions is the topic that lends itself most easily to prospective analysis. It may be presented in the terms already used in Figure IV-B. Among the factors accounting for GDI per CU used in this figure, we can rely on projections of the demographic ratio up to 2070 (Blanpain & Buisson, 2016). Labour force projections (Koubi & Marrakchi, 2018) are also available, and can be used to forecast changes in the employment-to-population ratio for the 20-59 age group, under the conventional assumption of a constant unemployment rate. These labour force projections incorporate the effects of pension reforms on the employment rate of older workers, with

the retirement age expected to tend towards 64 or 65 in the long term and employment rates before that effective retirement age assumed to reflect this lag, assuming that it is the distance to the retirement age rather than the age itself which, in the long term, determines the labour force participation of senior workers (Hairault *et al.*, 2006).

With a new base of 100 in 2018, we see that the effect of the retirement of successive generations of baby boomers continues, gradually softening until 2035 (Figure VIII) – a negative effect only partially offset by the expected increase in the labour force participation rate. Cumulatively, the combined effect of the age structure and the employment rate represents a drop of around five percentage points in terms of living standards in the long term. This would represent a decline in purchasing power for the entire population if it were distributed equally across the population as a whole. With reforms aimed at stabilising the share of pensions in GDP, the adjustment will affect pensioners alone and, being carried over to a population representing around a quarter of the total population, it is automatically four times higher. This is the figure resulting from the various existing simulations of the effects of the reforms on the standard of living of pensioners, the intensity of the effects nevertheless depending strongly on the assumption of future productivity

Figure VIII
Contributions of the employment rate and demographic dependency ratio to changes in average GDI per CU



Source : Blanpain & Buisson, 2016 ; Koubi & Marrakchi, 2017; calculs des auteurs.

growth. The reason is that the decline in the relative purchasing power of pensioners is mainly due to the indexation of the main parameters of the system on prices, the impact of which is weaker or stronger depending on whether growth is rapid or slow (Marino, 2013; Conseil d'orientation des retraites, 2019). The decline in the purchasing power of pensioners is lower if growth is lower, but is more pronounced with a faster growth rate, even leading to a decline in the level of pensions as a share of GDP. Basically, the alternative is between an increasing share of a slowly growing cake along with the associated tax increases and a stable or decreasing share of a faster growing cake.

* *
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The issue of income distribution between workers and pensioners is just one of the issues raised by the future of purchasing power, but it is very illustrative of the tensions we can expect to see over the coming decades. When pensions first emerged as a major issue in social debates in the early 1990s, it was widely believed that productivity gains could make the solution painless. What was and remains a valid projection is that by 2040 the number of pensioners will double

compared to a roughly constant working population. However, the prospect of seeing productivity also doubling over the same horizon was not unrealistic. Therefore, this suggested that it was possible to guarantee the same standard of living for twice as many pensioners without the need to increase contribution rates or the retirement age. But this ignored that what is expected of a pension system and, more generally, of the entire system of transfers is to meet targets of relative standards of living for all the groups concerned by redistribution.

But there has been more than that. The growth rate has weakened steadily throughout the period under review. Over the last decade, it has only just managed to maintain the average standard of living, despite the rise in labour force participation rates: the issues of absolute and relative living standards have thus come to overlap. Income levels tending to stagnate on average or within large population groups necessarily mean both absolute and relative declines in living standards affecting part of the population, except in a world where relative individual positions would be perfectly constant.

Would a return to productivity gains at a faster pace help to ease this pressure? This prospect seems highly uncertain, especially since the question also arises as to the nature of these productivity gains. Some of the sources of activity that are generally thought of when describing what future growth will look like are relatively different from the factors that drove growth during the “Glorious Thirty Years”. During this period, growth mainly consisted in producing a growing range of goods while using more labour-saving methods and with a limited concern for the externalities induced by such production. It has already been pointed out how the impact on perceived well-being has largely been cushioned by the fact that changes in the supply of goods and services led to similar changes in consumption standards: herein lies the difference between the concepts of purchasing power and standard of living. This factor is expected to continue to weigh on perceptions of living standards.

However, another factor is that future production will also in part be compelled to reduce the negative external effects of growth, in the form of what national accountants call defensive expenditures, i.e. activities that do not improve well-being but prevent it from deteriorating. The accounting and conceptual framework used in this retrospective analysis should provide a basis to explain the ambiguity of future growth: more constrained

expenditure, or collective expenditure that is difficult to individualise and whose financing will tend to widen the gap between household GDI, AGDI and production as measured by GDP,

whether this financing requires increases in direct or indirect taxes. This type of tension, which has fuelled the social debate over the past year, is likely to continue. □

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