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Explaining the Reversal in the Trend of Older Workers' Employment Rates
The Case of France

Didier Blanchet, Antoine Bozio, Corinne Prost, and Muriel Roger

4.1 Introduction

Declining labor force participation (LFP) of older workers has been a topic of concern in many developed countries during the 1980s and 1990s, including Europe. The European Council fixed in 2001 the so-called Stockholm objective of reincreasing the employment rate of workers aged 55–64 and older to 50 percent in 2010. In 2010, a new target has been settled for 2020: reaching a global employment rate of 75 percent for the whole 20–64 age group, with a large part of this global target to be reached by increasing the employment rate of older workers. Designing policies to reach such goals requires identifying what had been the causes of the decline. A large amount of literature has been devoted to this question. Gruber and Wise (1999, 2004), among others, have related the decrease in older workers' labor market participation to the increase in pension benefit generosity or to the lack of financial incentives to postpone retirement. Empirical research has also focused on the substitution effects between the several pathways to retirement that are available before the normal retirement age (NRA; e.g., Coile, Milligan, and Wise 2016).

Yet a significant upturn in LFP rates has been observed in several developed countries since the beginning of the 2000s, which raises a new issue:

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assessing what have been the main contributors to this increase. France is no exception to that. After having reached a very low point at the turn of the century, employment and the LFP rates of French older workers have started moving upward. They have now done so continuously for more than 10 years. This process is expected to go on during the next decades, contributing to the long-run stabilization of French pension expenditures (European Commission 2015; Conseil d'Orientation des Retraites 2015).[1] This reversal is generally presented as a direct consequence of successive pension reforms that, since 1993, have progressively changed requirements for full pension benefits. There is little doubt that these reforms have played a significant role. But their contribution deserves closer examination. For instance, Roger and Walraët (2008) have shown that there is an asymmetry in the impact of pension reforms on older workers' employment: an increase in generosity decreases their employment rate, but the reverse process can be more complex. Moreover, Coile and Levine (2010, 2011) show that the recent crisis has reshaped the approach to the question of older workers' retirement paths. They find that the effect of the crisis on retirement decisions among the least skilled workers, who generally have less-continuous careers than more skilled ones, is mainly due to its impact on the labor market. Older job seekers, with no income and dwindling employment prospects, anticipate the date on which they will start drawing their pension. Older workers' employment also depends on workers' and firms' behaviors before the NRA, both of which are affected by changes in early retirement programs and unemployment insurance. Moreover, some independent socioeconomic factors could have led to increasing labor force attachment even without the help of reforms. These factors deserve exploration as well.

Disentangling the roles of these different explanations is the purpose of the present chapter. Several methods can be used to pursue this objective. In the following, we document the general situation in France over the recent period, exploring in a descriptive way the standard factors inventoried in the economic literature for explaining older workers' employment (Coile 2015). We will also rely on a dynamic microsimulation model (Blanchet et al. 2010) that has been developed and used at the French INSEE since the mid-1990s and whose main purpose is the analysis of pension policies. It is a powerful tool to simulate future changes in retirement behavior linked with changes in pension rules. But it can also be used in a retrospective way, providing counterfactual microsimulations of what retirement behavior would have been in the absence of reforms enacted since 1993. It can thus provide a detailed assessment of how legislation changed past behavior.

Section 4.2 will start by recalling the main aggregate figures for changes in LFP and employment rates over the long period. Section 4.3 will focus on

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1. Currently representing 14 percent of the GDP, they are planned to remain more or less at this level until the middle of the century despite a context of rapid aging.

general socioeconomic factors. Section 4.4 will present the main legislative or institutional changes that have taken place and theorize which are candidates for explaining the reversal of these rates. Section 4.5 will then try to assess their roles. One first subsection will use available statistics to provide a simple accounting assessment of relative contributions of reduced access to early exit routes and delayed normal retirement. The second subsection will focus on the role of this latter factor using microsimulation. Our short conclusive section will insist on possible interactions between these factors and discuss some more prospective issues.

4.2   The Trend Reversal of Older Workers' Employment Rate

Figures 4.1 and 4.2 display LFP and employment rates for French men and women, derived from the Enquêtes Emploi (French Labour Force Surveys [LFSs]) for three age groups: 55–59, 60–64, and 65–69. They are completed by figure 4.3, which provides the unemployment rate, aggregated over the larger 55–64 age group, compared with the one observed for the whole 15–64 age bracket. The focus in this chapter will be on explaining trends since the early 1990s, but most of our graphs will provide a longer view, generally going back to the mid-1970s.

4.2.1   Men

Let us first concentrate on men. In 1975, LFP had already started to decline in France for male workers older than age 60. The NRA was still equal to 65, but various possibilities for earlier exits had been introduced—
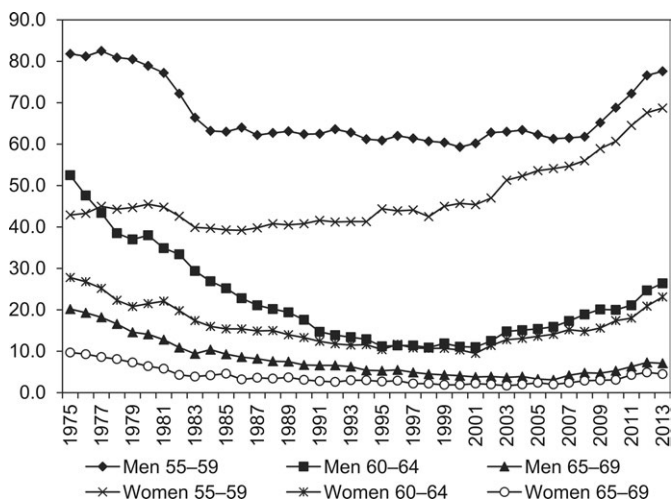

Fig. 4.1   LFP rates between ages 55 and 69 by gender and five-year age groups
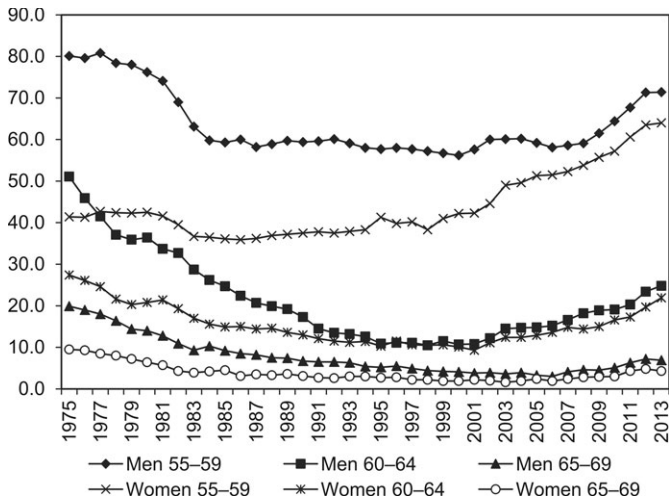*Source:* French LFS, INSEE.

Fig. 4.2   Employment rates between ages 55 and 69 by gender and five-year age groups
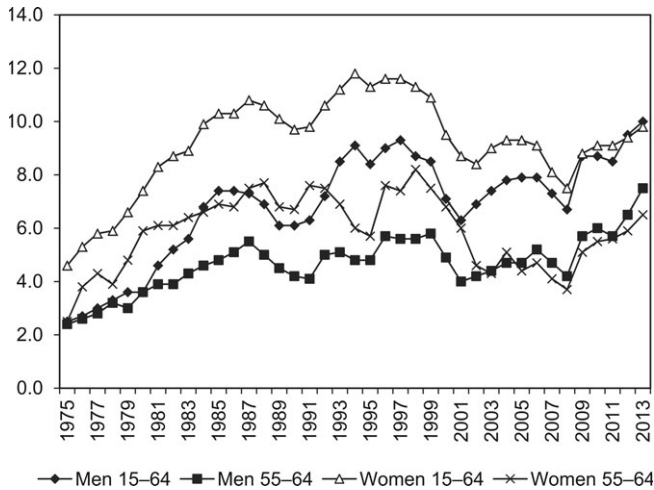*Source:* French LFS, INSEE.

Fig. 4.3   Unemployment rates by gender, 55–64 age group and total population
Source: French LFS, INSEE.

in particular, early retirement schemes for some specific categories of workers in the 60–64 age bracket. As a consequence, about half of men aged 60–64 were already outside the labor market, and the LFP was only 20 percent for men aged 65–69 in 1975. Employment rates were very close to LFP rates, implying very low levels of unemployment: the unemployment rate

was only 2 percent in the 55–64 age group, but very low rates prevailed as well for male workers of all ages.

In stark contrast with the already low LFP rates for those older than 60, both the LFP and employment rates in the 55–59 age group still stood at high levels, comparable to those of other Organisation for Economic Co-operation and Development (OECD) countries. This situation changed dramatically at the beginning of the 1980s. While LFP and employment rates for those older than 60 kept declining progressively and did so until the mid-1990s, the same rates for the 55–59 age group went through a short episode of strong decline: both rates lost about 20 percentage points between the late 1970s and the mid-1980s.

Continuing with the case of men, the contrast between progressive changes in the 60–64 age group and more sudden shifts in the 55–59 age group is also observed over the more recent period. After having smoothly reached their minimum values of about 10 percent in the mid-1990s, LFP and employment rates in the 60–64 age group have started reincreasing during the first half of the 2000s and did so in a progressive way that mirrored their previous progressive decline, resulting in a global V-shaped profile over the whole period. In 2014, the LFP rate for men aged 60–64 was back to 27 percent, and their employment rate was back to 23 percent—rates last observed in the early 1980s. The gap between LFP and employment rates is now larger than it was in 1975 due to larger unemployment rates. Even if they remain below average figures for the whole population, unemployment rates for older workers have significantly increased over the period—in particular after the 2008 financial crisis. But it is worth noticing that the recent increase in LFP has not just resulted in transforming pensioners into job seekers as could have been feared ex ante: there has also been a significant increase in the number of men older than age 60 who are actually working.

For the 55–59 age group, the recovery has been more concentrated in time, leading to a profile that is more U shaped than V shaped, with a particularly large time amplitude for the low part of the *U*. The low values reached around 1985 remained almost the same over the following 20–25 years and then had a period of rapid reincrease symmetrical to the 1980–85 episode. Current LFP rates are now back to their pre-1980 values. The movement is a little less pronounced for employment rates, due again to the increase of older workers' unemployment that has taken place in between, but however significant, these employment rates have regained about half of the 20 points they had lost between 1975 and 1985.

4.2.2 Women

On women's side, similar evolutions are under way but are partly hidden by increasing labor market involvement by successive cohorts of women all over their life cycles. LFSs and census data can be combined to provide a very long view of this labor market attachment, measured by LFP rates in
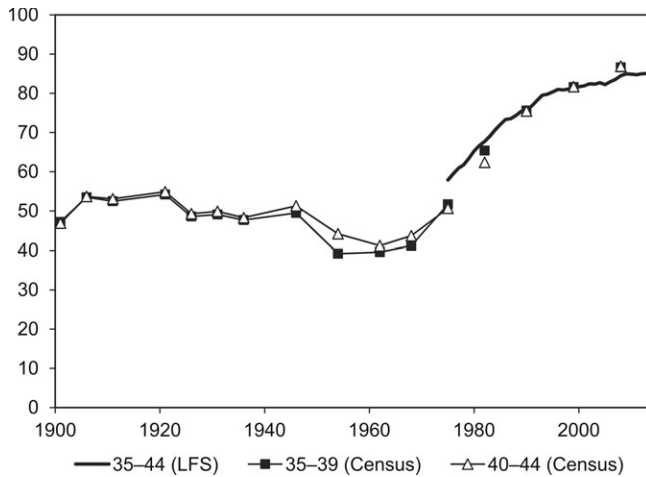
Fig. 4.4   LFP of women aged 35–44 by cohort
Source: Meron and Maruani (2012).

the middle of active lives, between 35 and 44 (Meron and Maruani 2012). Figure 4.4 shows no significant trend all over the first half of the last century, with only a local drop between 1946 and 1954 censuses due to a change in the way of recording activity for women in the agricultural sector. It is at the end of the 1960s that their LFP rate entered a phase of sustained growth, which brought it close to 80 percent at the end of the century. Cohorts concerned by this period of rapid increase are those born from 1930 to 1960—precisely those who started entering retirement ages during the 1990s, pushing up women's LFP and employment rates around the age of 60 all over the recent period.

For the 60–64 age group, this cohort effect is not sufficient to produce a series that qualitatively differs from the male ones. We get the same V-shaped profile as for men, the difference being only the lower levels in 1975: LFP and employment rates of 28 percent and 27 percent, a little more than one-half of those for men in the same period. The profiles for men and women have become progressively closer during the phase of decline until the second half of the 1990s, and both profiles now move upward very close to each other.

The same story can be told for LFP and employment rates in the 65–69 age group, but the situation is very different for the 55–59 age group. Here the cohort effect almost completely offsets the declining branch of the *U*. This is due to the fact that this declining branch has been intrinsically less pronounced for women because of their underrepresentation in industrial sectors where early retirement policies have been used the most intensively during this period. Due to the same cohort effect, entry into the phase of increasing LFP and employment rates in this 55–59 age group occurred ear-
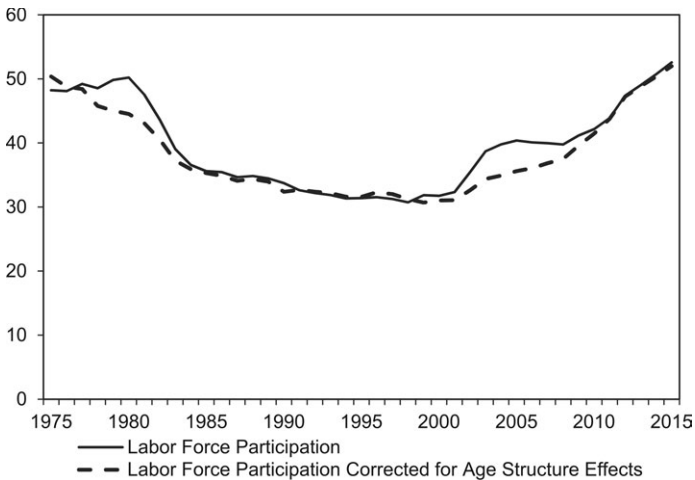
Fig. 4.5   LFP rate for the 55–64 age group, men and women, standard and corrected for age structure effects
Source: French LFS, INSEE, and DARES for the corrected series.

lier than it did for men, as soon as 1990, and the magnitude of the increase has been much more pronounced. Both rates have gained about 30 points between 1990 and now.

4.2.3   Control for Demographic Structure Effects

Combining men and women, figure 4.5 provides a more global vision of trends for the whole 55–64 age group in two versions: one based on standard LFP rates—that is, the total number of active people in the labor force divided by the total size of the age group—and one controlling for demographic structure effects within this age group. This control is necessary to correct for historical accidents that have affected the French age pyramid. In particular, the transition through the 55–64 age group of the very small cohorts born between 1915 and 1919—due to low birth rates during WWI—led to a temporary twist in the internal age structure of this age group that lasted from 1970 to 1985: one first phase with lower numbers than usual in the more active 55–59 age group, then a phase where this underrepresentation moved to the older, less active 60–64 group before returning to status quo.

A similar phenomenon occurred in 2000 with the arrival at age 55 of the first large cohorts born after 1945. It temporarily increased the global LFP beyond its normal trajectory, a gap that took 10 years to correct itself. The alternative LFP rate that corrects for these perturbations is more informative of real behaviors and confirms the general message, albeit with different timing. About half of the men and women in the 55–64 age group were work-

ing or seeking employment in 1975; this proportion progressively dropped down to about 30 percent during the 1990s and is now back to 50 percent, even if this target has been reached a little later than requested in the 2010 Lisbon agenda.

The question now is to sort out which factors have contributed the most significantly to this increase.

4.3   Could General Socioeconomic Factors Explain the Reversal?

Even without reforms, several factors could have contributed to the recent increase in the global LFP of the 55–64 group. Increasing women's attachment to the labor market is one of these, and it has already been exposed in the previous section. It will have to be kept in mind in subsequent analysis.[2] Other commonly cited factors are better health, higher education levels, or changes in labor market conditions. We successively explore the evolutions of these factors over the past decades to assess their potential contributions to explaining the U- or V-shaped profiles of the LFP and employment rates.

4.3.1   Health Changes

Health status is one factor that affects retirement decisions. Standard models of retirement behavior explain retirement decisions by the interaction between financial incentives and a small set of preference parameters, including the so-called preference for leisure: health status is an implicit component of this latter parameter, and an increasing body of literature tries to make its role more explicit. Survey data provide very rich sets of objective and subjective health indicators that can be used for assessing this role at the micro level (e.g., Behaghel, Blanchet, and Roger 2016). This contribution of health is more difficult to assess from a historical macro perspective due to the lack of homogenous aggregate time series: diagnosis and perception of health problems evolve over time and questionnaires are not always homogenous across successive surveys. All this hinders long-term comparability.

One solution to this comparability problem is to use mortality data as a proxy for morbidity. The hypothesis that mortality changes are a good proxy for morbidity changes is, of course, highly debatable: survival probabilities may increase without any significant improvement in health status.

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2. It may also have had some spillover effects on men's retirement behavior, if we assume that the labor market position of one's spouse plays a role in retirement decisions (Schirle 2008). This chapter does not attempt to quantify this spillover effect, however. In the French case, Sédillot and Walraët (2002) showed that women's decisions in the labor market are indeed influenced by their spouse's status but that men are less sensitive to the situation of their wives as far as retirement decisions are concerned, suggesting that the contribution of this factor would have been, at best, minor.
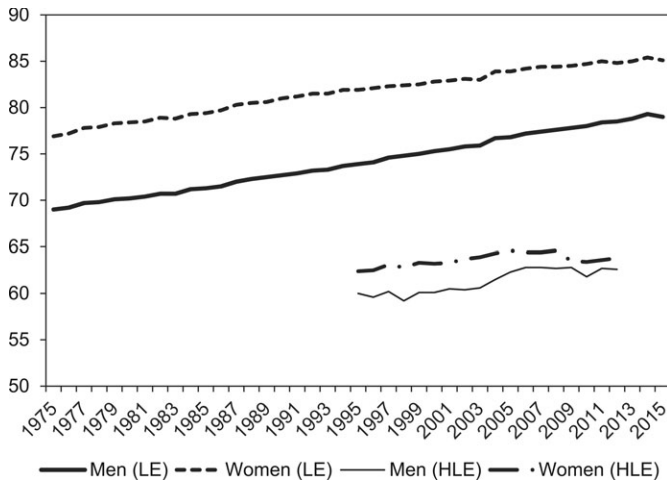
Fig. 4.6 Life expectancy and healthy life expectancy at birth
Source: INSEE.

But mortality series have the advantage of being homogenous by nature and easily available. Moreover, mortality can be in itself a direct determinant of retirement behavior: it is very likely that preference for early retirement is influenced by expected mortality, as people who anticipate higher mortality risks may be more likely to retire earlier if they want to spend a sufficient number of years as retirees. Lower expected mortality may conversely push retirement age upward, especially if people anticipate their consumption needs over increasingly long retirement periods.

Yet changes in life expectancy (LE) do not appear to be a plausible candidate for explaining the U-turn in observed retirement behavior. It is all over the last decades that LE has considerably increased in France: LE at birth went up from 69 years for men and 76.9 years for women in 1975 to 79 and 85.1 years, respectively, in 2015 with no acceleration over the recent years (figure 4.6).

The message is the same if we look at an indicator that corrects global LE for changes in health status. This indicator of healthy life expectancy (HLE) is a more recent concept available only for the last two decades. For this second indicator, curves are flatter, but the message is otherwise the same as with general LE, as the indicator shows no upward inflection in the 2000s that could account for increasing LFP rates over the same period. The small change that has been observed around 2009 has rather gone in the opposite direction. This message is also reinforced by Blanchet et al. (2016), who describe long-run evolutions of health in France using an indicator of self-assessed health (SAH) over the last 20 years. As for HLE, they do not

observe any improvement in the SAH over the period.[3] Hence it is difficult to credit health changes for the reversal of the LFP trend from the mid-1990s.

4.3.2   Labor Market Conditions

Skills and wage levels are another set of socioeconomic factors that could account for the recent reversal. As for health, they can impact the supply side of the labor market. Higher skills are generally associated with jobs with richer contents, larger individual control, and fewer physical demands. These nonmonetary incentives to remain in the labor force are reinforced by the fact that these jobs also benefit from higher wage levels. In pension systems where replacement rates are generally decreasing with wage levels, this provides an additional motivation to later retirement.

But the same factors also act on the demand side of the labor market. Here it is the gap between wages or labor costs and productivity that potentially matters, productivity being dependent on skills. Wage levels and labor costs of older workers have indeed been a long-lasting concern in the economic literature. Aubert and Crépon (2003) underline the relevance of labor demand when trying to understand the participation rate of people aged older than 50. Among others, older workers' wages may be too high relative to their productivity if wages remain stable even in the case of skill obsolescence. This can induce unemployment or even exits from the labor market if employment prospects are too bad. France is one of the countries where this issue can be of particular importance due to a strong apparent wage premium for older workers.

As far as skills are concerned, figure 4.7 shows the shares of blue-collar workers among employed men and women aged 55–64. A local U-turn is observed for men in the mid-2000s, and it is relatively simultaneous with the one observed in LFP rates. But the relationship, if any, is hard to interpret, as it mixes causality in both directions. Exogenous changes in the global share of blue-collar workers may have induced higher or lower rates of exits from the labor force from one period to the next. But changes in exit rates have also shaped the composition of the employed population by skills. Facilitation of early exits has often benefited more than proportionately the blue-collar workers, reducing their share in global employment. Access to these early exit routes has been substantially reduced over the recent period, as will be shown in more details later, and may have led to a higher retention of blue-collar workers in old-age employment.

Similar problems of interpretation arise when interpreting wage data. Figure 4.8 displays the ratio between the average wage of full-time workers in the 51–60 age group to the same average wage in the entire population of

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3. The lack of clear improvement in self-assessed health over time raises the issue of potential declaration biases. Whatever the reason for the flat trend, we can't use this information to document the reversal in LFP.
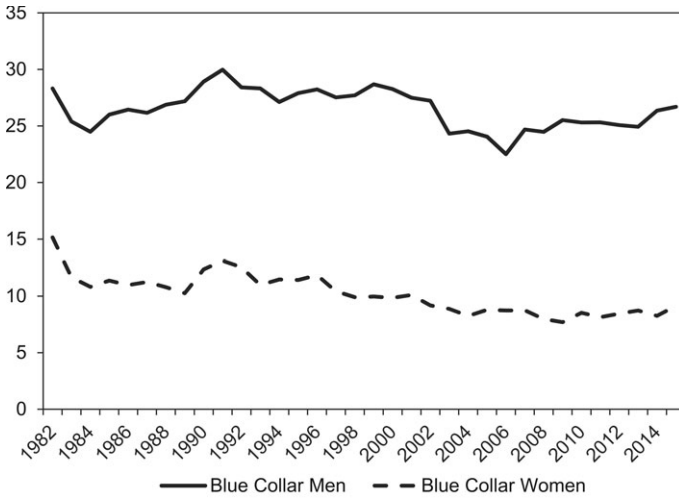
Fig. 4.7 Share of people aged 55–64 in blue-collar jobs
Source: French LFS, INSEE.

Fig. 4.8 A wage premium for older workers
Source: Annual Declaration of Social Data, INSEE.

full-time workers. Until 2000, this graph confirms the existence of a strong and increasing apparent wage premium for older workers that reached a high point at the end of the 1990s followed by a period of substantial decline. The phenomenon is particularly important for men but has also been observed for women. Here it is both the timing and the amplitude of the evolutions that may appear consistent with a causal lecture running from wage rates to

LFP: an increasing wage premium would have been a handicap to increasing LFP rates until 2000, and wage moderation for senior workers after 2000 would have helped restimulate demand for these workers. However, the circularity problem reappears. Wages are observed only for the share of the older population that is actually at work. Declining LFP rates until the end of the 1990s have increased mean wages observed for senior workers because the less-skilled populations have been the most intensively affected by the phenomenon. The apparent wage premium would have been still higher if we had extended the age bracket above the age of 60: in the 60 and older age group, it is almost exclusively highly skilled white-collar workers who were still in the labor force when the LFP reached the low point of 10 percent shown on figure 4.2. The reversal of this wage premium can be a consequence as well as a cause of the reversal of LFP rates that followed this low point.[4]

Some previous studies also tend to relativize the idea that wage levels for French senior workers are a major causal factor explaining their low employment rates. In particular, following Hellerstein, Neumark, and Troske (1999) and Crépon, Deniau, and Perez-Duarte (2003), Aubert and Crépon (2003) have tested the equality between wage and productivity for older workers in France during a part of the period we analyze (firms are observed from 1994 to 2000). These authors estimate a profile of productivity that increases until age 40 and then remains stable. The age-productivity profile is similar to the age-labor cost profile, which means that the hypothesis that the lower employability of older workers can be explained by a significant wage-productivity gap seems rejected, at least before age 55. After this age, a slight productivity decrease occurs, but this decrease is not statistically significant. For older workers still employed, the wage-productivity gap does not seem to be a concern. Yet the full interpretation of the wage-employment nexus for older workers remains an open issue: one cannot rule out that nonemployed older workers are not employed because of the gap that exists between their reservation wage and their productivity level.

4.3.3   Education

What if we look at education levels? This cannot settle the debate about the contribution of the wage-productivity gap to low employment rates, but a separate look at education levels is interesting on its own. This variable has the advantage of being observable for the whole population, not only for people who are still employed. And its role is of particular importance in a context of rapid technological change. Following Aubert, Caroli, and

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4. The additional bump from 1996 to 2006 might also have resulted from the same kind of demographic effect that was observed in figure 4.5 for LFP rates: the arrival of the first baby boom cohorts at age 50 in 1996 may have temporarily pushed up average wages for the whole age group.
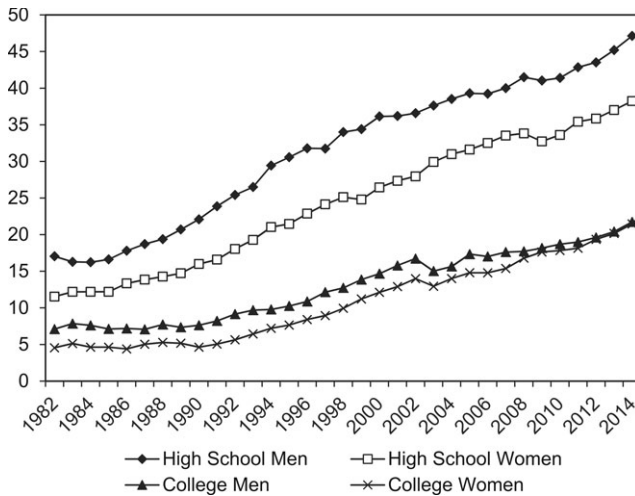
Fig. 4.9   Share of people aged 55–64 with high school or college degrees
Source: French LFS, INSEE.

Roger (2006), a large amount of literature shows the existence of an anti-age bias associated with IT and innovative workplace practices. In a context of rapid technological changes, this bias probably contributed to the low level of employment of older workers. An issue raised by these results has to do with the transitory or permanent nature of this phenomenon. The implication for older workers' employment rates is very different depending on whether the bias is limited to the time needed by older workers to learn about the new environment or whether it is a long-term consequence of the lower education levels of the older cohorts. In the latter case, an increase in education level at younger ages induces higher employment rates around 40 years later. In the case of the US, Blau and Goodstein (2010) and Baner-jee and Blau (2016) show that changes in the educational composition of the older male population contributed to the increase of the older workers employment rates.

In France, the compulsory schooling age increased from 13 to 14 in 1936 and from 14 to 16 in 1959. We observe thus an increasingly educated population over the recent period (see figure 4.9). The increase in the education level is a good candidate to explain the increase in the employment level of older workers—and not only because it allows easier adaptations to technological or organizational innovations or because such workers face less adverse work conditions. Another direct mechanism is that access to a full-rate pension depends on the number of years of contribution; hence a more-educated workforce faces more incentives to retire later. This will be incorporated in the microsimulation model used in the last section. But what education is likely to explain is only a regular trend, not the U-turn that has

been observed in the early 2000s. Explaining such a U-turn requires looking at other exogenous factors for which similar U-turns have occurred over this time period. This is the case for general pension rules that have been reformed several times over this period and also for rules governing other ways to leave the labor market before the minimum retirement age of 60.

4.4   Institutional Changes

We document in this section the numerous reforms that have affected pension arrangements in France and other schemes like early retirement or unemployment benefits.

4.4.1   Pension Reforms

The French pension system is relatively complex, and we do not pretend here to provide a systematic overview (more details were provided in previous volumes; see Blanchet and Pelé 1999).

Until the 1980s, all pension reforms in France aimed at increasing benefit levels and favoring early retirement. The last significant reform of this kind was implemented in 1983, with the so-called lowering of the retirement age to 60. The reform, in reality, did not change the French early retirement age (ERA), which was already equal to 60 before the reform; what it did was offer higher benefit levels at this age under the additional condition of having reached 37.5 years of contribution. Given that most male workers were fulfilling this condition (but not all female workers), it essentially offered full-rate benefits at this ERA.

Then, starting in the 1990s, the French pension system underwent a series of new reforms going in the opposite direction by reducing benefits or increasing ages at benefit claiming. The major reforms took place in 1993, 2003, 2010, and 2014.

The 1993 reform affected incentives to retire for private-sector workers in two ways. The first instrument has been the reduction of pension levels at the full rate: instead of being computed on the 10 best years of one's career, the average of past earnings used for the benefit formula has been progressively computed on a longer period—up to 25 years for people born 1948 or after. This change has been coupled with the application of a less-generous revalorization rule for these past earnings, replacing the reevaluation according to past wage growth with a reevaluation based on past inflation only. The second instrument has been a strengthening of the conditions required to get the full pension: it has been progressively increased from 37.5 to 40 years by one-quarter each year from cohort 1933 to cohort 1943.

The 2003 reform extended the 1993 reform in several directions. The first one has been toward public-sector employees. For them, the condition for a full-rate pension had remained at its pre-1993 value of 37.5 years of contribution, and they only incurred a small penalty for retiring before

reaching that contribution period, the penalty automatically resulting from the proportionality between the pension level and the number of years of contribution. As a first step, the 2003 reform changed this length-of-career condition for these public-sector employees, raising it to 40 years, and it introduced a penalty of −5 percent per missing year of contribution. The penalty applying to private-sector employees was symmetrically aligned on this new value of 5 percent, as its initial level of 10 percent was much stronger than required for actuarial neutrality. The condition for obtaining the full rate was then made more stringent for both categories of workers: starting in 2008, the contribution period has been increased from 40 to 41.5 years, and the reform introduced a mechanism linking further increases of this parameter to changes in LE. Symmetrically to the move toward actuarial and homogenous penalization of early exits, the reform also introduced a new bonus for years of postponement beyond the full rate, initially equal to 3 percent and then further increased to 5 percent per year of postponement. Last and opposite to the general trend toward later retirement, the reform opened new possibilities for early retirement through the pension scheme itself (and not through separate early retirement schemes), under the label of "long career rules." However, this was limited to a very targeted population: workers who had started working (and contributing) very early, at ages 14, 15, or 16. They were offered the possibility to retire with the full rate as soon as age 56, 57, or 58, depending on additional conditions on contribution length.

This 2003 reform had, however, still ignored some specific categories of public-sector employees, those of large public firms benefiting from "special schemes" (railways, public transportation, and gas and electricity). These schemes were aligned on common rules in 2007 (contribution length, penalty for early retirement, etc.) even if pay compensation had to be offered to soothe opposition to this change.

The 2010 reform then affected all categories of workers from the public and private sectors. It consisted of an increase in the ERA and the "unconditional" full-rate age (UFRA), which gives access to a full-rate pension no matter the length of the contribution rate, by two years each. Put in other words, it shifted the age bracket within which people are expected to choose their retirement age from 60–65 to 62–67. For public-sector workers who still benefited from different reference ages (e.g., policemen, prison officers, or nurses), the increase was similar, with the ERA shifted from 55 to 57 and the UFRA from 60 to 62. At the same time, mandatory retirement rules—allowing employers to mandate that employees retire as soon as they reached the full rate—were relaxed and postponed to the age of 70.

In 2014, a last pension reform was introduced, which strengthened again the condition for full-rate benefits, and increased the contribution period from 41.5 years to 43 years. At the same time, "long career rules" were extended to include workers who started to work before age 20.
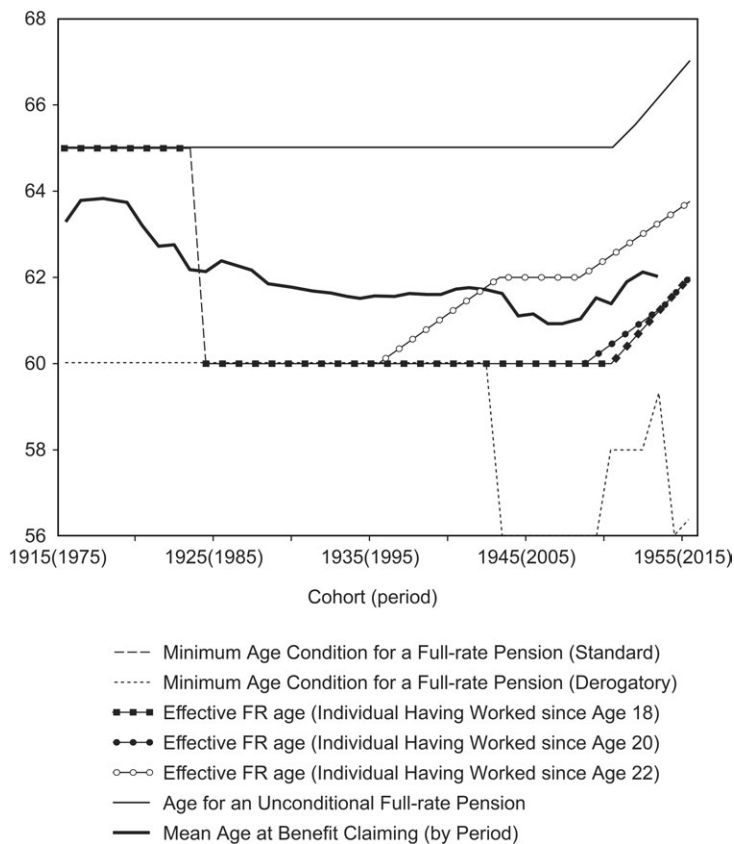
Fig. 4.10   Age indicators summarizing retirement rules in the general regime

All of this shows that it is very difficult to summarize retirement-age policies with a simple indicator. We rather propose several of them in figure 4.10:

- six indicators computed by cohort
  - the minimum age requested to get a full-rate pension, excluding derogatory situations
  - the same age, including all derogatory possibilities and possibilities offered by "carrières longues," corresponding to an extreme version of the notion of ERA
  - the effective full-rate age (FRA) for three illustrative ages at entry in the labor market (18, 20, or 22), assuming continuous careers afterward
  - the UFRA—that is, the one that applies to people with short careers

- one indicator computed by period, the effective age at benefit claiming that is assumed to be a good proxy of the age at which people reach the full rate in practice

Each of these indicators brings its piece of information, yet none of them is fully sufficient to offer a satisfactory picture of how retirement conditions have evolved over the period.

Using the age at which the unconditional full rate is attained gives an obviously distorted image of what retirement conditions have been or are: this age has never been below 65 and has started to increase recently and is now equal to 67; it is relevant only for people with short careers—mostly women—and not really representative of the real possibilities offered to the majority of the population.

More adequate is the age at which a full-rate pension starts being possible, excluding derogations. This age declined from 65 to 60 in 1984 and has recently increased to 62 after the 2010 reform. It therefore captures the kind of U shape we want to explain. It does so, however, in an overly simplistic way.

- It first ignores the fact that a full-rate pension was already offered unconditionally to some categories of workers before 1984. Of course, we can choose to incorporate these possibilities, but this leads to the extreme version of the ERA that is still less adequate: this indicator displays no change at all in 1984. Pushed to the limit of also introducing the very derogatory "carrières longues," it leads to the message that the 2003 reform has lowered the ERA, which is indeed true but only for a very small fraction of the population.
- Second and more important, this indicator ignores the contribution of changes in the career-length condition, which plays a central role in the French system and has been the instrument successively privileged by the 1993, 2003, and 2014 reforms.

What we need is an indicator that incorporates the impact of these latter reforms. This is the case with the FRA, which, in the French case, may seem the more in line with the notion of a NRA, but the problem is that this age is not a single age common to all individuals: it is highly dependent on individual characteristics, as shown by the three examples of people having started their working lives at 18, 20, or 22. Using effective ages at benefit claiming is one possible way to summarize this variability, the last one that is explored on the graph. It displays the expected reincrease at the end of the period. But this indicator is not fully satisfactory either, as it is more an indicator of how people reacted to age conditions rather than a pure indicator of how these age conditions did change. Moreover, being an average age over the flow of benefit claimers, it may send short-time messages that are

difficult to interpret. Such is the case here concerning the decline observed just after the 2003 reform. This decline offers a distorted image of how the "carrières longues" system has impacted behavior. A temporary over-representation of early exits in yearly flows mechanically occurred just after the introduction of the system, pushing downward the average age of these years' claimers. This bias has been exacerbated if the reform simultaneously had the strongest postponement effects among people who already used to retire late. In this case, these people have found themselves temporarily underrepresented in the current flow of benefit claimers, still increasing the short-term downward bias of the indicator.

4.4.2   Other Schemes: Early Retirement Schemes, Unemployment, Disability

We must add possibilities offered by other routes of exit from the labor force to this variety of age indicators applying to normal pensions: (a) early retirement schemes (préretraites), or state-sponsored schemes offering transitory benefits before access to normal retirement; (b) unemployment insurance; and (c) the invalidity/disability route, which is relatively marginal in the French case.

Early retirement schemes appeared in France in 1963 with the ASFNE (Allocation spéciale du Fond National pour l'Emploi) for workers older than 60. This program had a replacement rate of 80 to 90 percent of the previous wage. In the 1970s, a new early retirement program was settled by the UNEDIC (the Unemployment Insurance) to provide early retirement benefits (garantie de ressources, or GR) on a large scale. The GR, initially limited to layoffs in 1972, was extended in 1977 to people who voluntarily left their job (Garantie de ressources démission, or GRD). It was targeted at the 60–65 age group. The replacement rate was 70 percent of the previous gross wage, thus higher than a full-rate pension. In the beginning of the 1980s, early retirement programs were extended to wage earners older than 55 with a change in the ASFNE rules and the creation of the CSPRD (Contrat de Solidarité préretraite démission), a scheme that offered a replacement rate of 70 percent to wage earners with more than 10 years of contribution who had resigned. In the meantime, the NRA had been decreased to 60 in 1983. With this decrease, early retirement schemes were expected to play no more than a marginal role. The GRD was gradually suppressed and the ASFNE benefits reduced. This scheme was restricted to the wage earners older than 57 in 1994 and definitively suppressed in 2011. Alternative early retirement programs with much narrower targets were created in the 1990s to replace the previous schemes. The Allocation de remplacement pour l'emploi (ARPE) and Congé de fin d'activité (CFA) schemes created in the mid-1990s were targeted to wage earners older than 58. Employers using the programs had to replace early retirees with younger workers under age

26. The ARPE and the CFA were suppressed in 2003. They were replaced in early 2000 by the Cessation d'activité de certains travailleurs salariés (CATS) and the Cessation anticipée d'activité des travailleurs de l'amiante (CAATA), which were even more focused. The CATS scheme is targeted to workers who had especially difficult working conditions (at least 15 years on an assembly line or with night work). The CAATA scheme targets workers exposed to asbestos.

With the reduction of early retirement schemes, the main new evolution favoring early exits during the 20 years after the mid-1980s has been the expansion of the unemployment insurance route. This essentially took place through the creation of the DRE (Dispense de recherche d'emploi), which was introduced in 1984. In the 1990s, DRE became numerically more important than early retirees. The system exempts unemployed people from an active job search past a certain age—55 at its creation. There were many changes, mostly decreases, in the eligibility age between 1984 and 2009 before a gradual increase to 60 in 2011. The DRE program was terminated in 2012 without changing unemployment benefits for older workers. The DRE did not give additional unemployment benefits. Yet there always were specific rules that give longer benefit entitlements to older unemployed people. One of these rules is that under certain conditions, older unemployed people are entitled to constant benefits until they become entitled to a full-rate pension. Special solidarity programs for unemployed people older than 50 also exist, but they are less generous.

Use of disability benefits in France is quantitatively limited (Behaghel et al. 2012). The French pattern of early transitions out of employment is basically explained by the low age of "normal" retirement and the importance of transitions through unemployment insurance and early retirement schemes before access to normal retirement. The progressive shift of the minimum retirement age from 60 to 62 and the parallel shift from 65 to 67 for the age at which a full-rate pension can be obtained, whatever the length of one's career, may change this situation. Several paths to disability have been open in France since the 1970s without many changes in the legislation except those regarding the level of disability required to be eligible. The main features of the system are the following: Before 60, the *pension d'invalidité* is for individuals with a disability rate over two-thirds. After 60, people may be eligible either if they are already benefiting from invalidity insurance before that age (retraite pour ex-invalides) or if they are declared incapable of work at that age, even if they were not previously benefiting from invalidity benefits (retraite pour inaptitude). They are eligible to the *pension d'inaptitude* for a disability rate over one half. Since 2010, a third path is open for people with difficult work conditions during their career (retraite pour penibilité). These people are treated as full-rate pensioners even if they do not fulfill conditions for the full rate as soon as they turn 60.

4.5   Can Reforms Explain the Trend Reversal? Two Approaches

Qualitatively, all the reforms described in the previous section are good candidates for explaining the V- or U-turns of employment and the LFP rates in the 55–64 age group. A quantitative assessment of their contribution is more difficult, however. The main difficulty in relating LFP of older workers to institutional changes comes from the fact that reforms have happened at the same time in all schemes (pension, unemployment insurance, and early retirement schemes), with numerous changes sometimes affecting different age groups or following formulas that are relatively complex, such as those stemming from the interaction between age and career-length conditions. We will consider two complementary ways to tackle these difficulties.

The first one will be purely descriptive, based on a count of the number of people in the different statuses at each period. In order to clarify the discussion, this will be done looking at the 55–59 and the 60–64 age groups separately. This approach will cover both regular retirement and other exit routes. The limit is that it does not fully identify how far these changes are the pure results of reforms or of other factors. The second one will be more analytical, based on counterfactual simulations of no-reform or partial-reform scenarios, but it will be limited to the case of regular retirement.

4.5.1   First Approach: Counting Numbers in the Various Statuses

For the 60–64 age group, we have documented a continuous drop in LFP from the early 1970s to the mid-1990s. These changes have been partly the result of the shift of the NRA from 65 to 60 that took place in 1983. To be precise, it is not a general access to full-pension entitlements at age 60 that has been introduced at this time—this access has been allowed only to people reaching age 60 with a total of at least 37.5 years of contributions to social security. Yet this condition was not really binding for cohorts that had started working on the average much before the age of 20: at that time, it indeed corresponded to a de facto move of men's NRA to 60.

Figures 4.1 and 4.2 have shown that this did not translate in a fully concurrent shift of LFP rates. No significant break occurred. LFP and employment rates had started to decline well before, due to the fact that many possibilities to leave before 65 were already available before 1984. Early retirement schemes for the 60–64 age group had started to develop as soon as 1965 in France and derogations to the 65 rule already existed within the normal pension system itself.

Figure 4.11 presents the share of the population in the main regular pension schemes of the private sector (régime general and CNAV) or in one of the multiple nonregular early retirement schemes, including special schemes from the unemployment insurance. Panel A shows these trends for the 60–64 age group. One can see very clearly how the 1983 reform substituted and amplified a trend led by the increase in early retirement schemes. This trend

A   60–64 age group
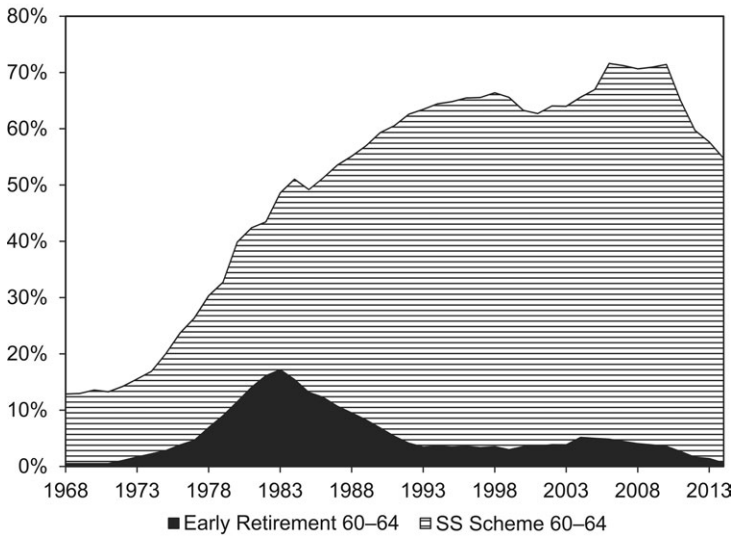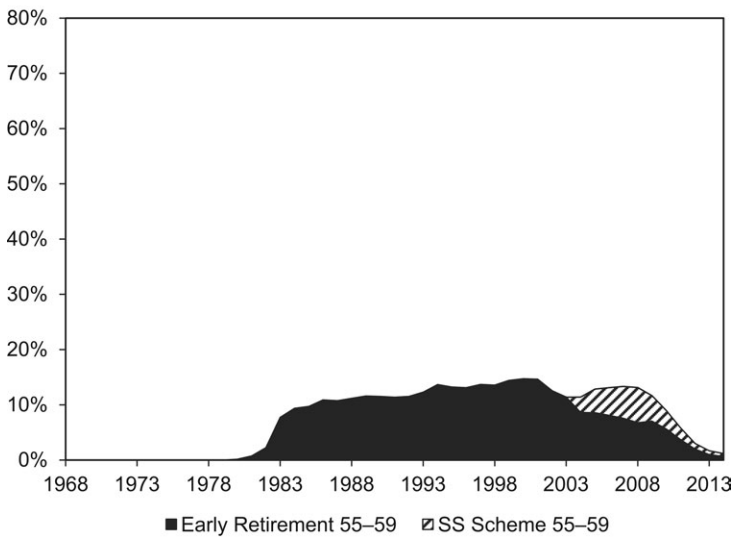

B   55–59 age group

Fig. 4.11   Share of the population in retirement (private sector) or early retirement schemes

Sources: DARES for early retirement schemes, CNAV for main social security scheme, INSEE for population by age.

matches therefore the decline in LFP relatively well until 1994. The reversal in the trend, which can be documented from the early 2000s, is harder to spot, and it occurs mostly at the very end of the period with the 2010 reform, where the LFP changes and the numbers in retirement do match more clearly.[5]

For the 55–59 age group, the LFP dropped quickly between 1980 and 1984 but increased quickly from 2008 onward. This pattern is also more pronounced for men than women. Pundits often credit pension reforms for this reversal in LFP, sometimes putting forward the distance to retirement effect—that is, a "horizon effect" according to which all labor market transitions prior normal retirement move in line with the age of access to normal retirement (Hairault, Langot, and Sopraseuth 2006). Figure 4.11 shows that the LFP changes match very well with the end of early retirement schemes, once both unemployment insurance and social security schemes are taken into account. The fact that early retirement policies were more than proportionately targeted toward declining industrial sectors with lower rates of female workers helps explain why these schemes do match more closely the change in trends for male LFP.

4.5.2   Changes in Regular Retirement Behavior: A Microsimulation Approach

Descriptive information on how the split of the population between employment, retirement, early retirement, or unemployment has changed is sufficient to show that changes in early exit routes and normal retirement have both played significant roles in explaining the upward move of employment rates, with a prominent role for the first factor in the 55–59 age group and for the second one in the 60–64 age group.

We shall now focus on normal retirement and this latter group. In this case, we have the possibility of going further into the details of how the reforms produced the effects that have been observed, at least if we accept the idea that French retirement behavior remains strongly driven by changes in rules allowing access to a full-rate pension. There is, of course, some dispersion in behavior around this reference retirement age. It is even likely that this dispersion has increased, as the 2003 reform explicitly chose to encourage freedom of choice around this reference age through reduced financial penalties for anticipated exits and the introduction of quasi-actuarial bonuses for postponed departures. Yet this age remains both a social norm and the age at which a majority of people claim pension benefits. Exploring how reforms have changed the age at which people reach this full rate provides a good proxy for how they have increased effective retirement ages.

The only difficulty of this evaluation is that the age of access to this full

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5. Figure 4.10 concerns only the private sector, but the 2003 reform also affected public-sector workers.

rate is highly dependent on individual characteristics. We need to know the number of years that the person has effectively contributed to any of the existing pension regimes when reaching age 60—hence a full knowledge of his or her employment biography. We also need information on some other characteristics that lead to add-on factors of the number of years effectively contributed: years covered by unemployment insurance are added to years of effective work, and in the case of women, having raised children also entitles them to additional pseudoyears of contribution.

Assessing the interaction between these individual factors and pension legislation can be done using a microsimulation model. Several pension models of this kind now exist in France, applying to either the whole population or some regime-specific population. The one we shall use here, the model Destinie, is of the first kind. It started being developed at the French INSEE in the early 1990s to provide simulations of how the 1993 reform was likely to impact retirement behavior in the short or long run—more specifically, the effect of progressively increasing the number of years for getting a full-rate pension from 37.5 to 40. This clearly called for a model that could predict the full distribution of the number of years of contribution reached at 60 for cohorts that would be affected by the reform, a task that is obviously easier to be performed by a dynamic microsimulation of careers at the individual level than by more aggregate models.

The version of the model that we use here (Destinie 2) was developed during the 2000s. As with any dynamic microsimulation model, it starts with an individual data set for its base year, the dynamic microsimulation basically consisting of "aging" this individual data set year after year by randomly drawing individual events that affect its members. This initial database is taken from the 2009 French wealth survey (enquête Patrimoine). Initial retirement status in this data set is known, and a standard microsimulation model would take this initial status as a given, limiting itself to generating new entries to retirement. This usual way of working would forbid simulating consequences of reforms that took place before 2009. But one characteristic of the model is that it ignores the information on pension status that is known from the survey; this status is instead reimputed based on pension entitlements derived from past careers observed in the sample. The reason for this reimputation is primarily technical: by using the same pension simulators for projecting pensions and reconstructing initial pension status and pension levels, the model avoids flow-stock discontinuities that would artificially bias its behavior at the beginning of the projection period. Here this feature will be used for another purpose. Since they are reimputed, initial situations can be set under counterfactual retrospective rules differing from actual rules. It is in that way that one can rewrite the recent history neutralizing part or the whole of legislative changes that have taken place since 1990.

The exercise is, of course, not without its limits. The model does not allow
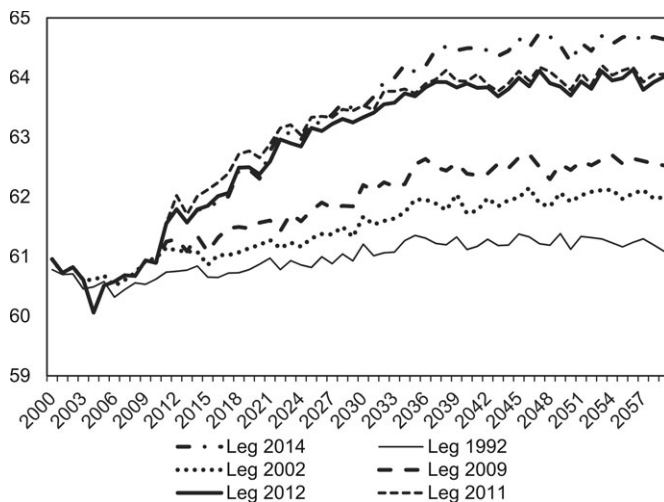
Fig. 4.12   Contributions of successive reforms to ages at benefit claiming
Source: Destinie 2 microsimulation model, INSEE.

reconstructing counterfactual behavior very far away in the past. The reason is that the reconstitution is affected by a bias that becomes increasingly important as time goes by. Some of the people who retire in the early 2000s die before the end of the decade. They are not observed in the initial database that is used by the model, and these people are more likely to be less-skilled people whose retirement ages were lower. This leads us to stop the backward reconstitution to 2000 just before the upturn we wished to reproduce. And the indicator produced is not the full counterfactual LFP rates for either the 55–59 or 60–64 age groups, as this would have also requested a reconstitution of past counterfactual labor-market behavior before normal retirement, which is not allowed by the current structure of the model. What we provide is less ambitious; it is just an evaluation of the mean age of yearly reconstructed flows of new retirees. This reconstitution is nevertheless informative. Results are given in figure 4.12.

First, even without reforms, changes in the composition of the population would have already accounted for a slight increase in retirement ages. This corresponds to the "leg 1992" line on the graph that shows what would have been observed if the 1992 rules had been maintained forever. What this scenario measures is essentially the impact of higher education levels from one cohort to the next. It would have contributed to an increase by a little less than one half year between 2004 and today and still another half year in projection until the final horizon of 2060. What matters here is the interaction with the initial condition of totalizing 37.5 years of contribution for getting the full rate. An increasing share of the population would have

fallen short of this condition at the age of 60 and would have had to wait a few more quarters or years before retiring, even without reforms.

The impacts of the 1993 and 2003 reforms are shown by moving to the "leg 2002" and "leg 2009" lines—that is, the counterfactual scenarios simulated under rules that prevailed, respectively, just before the 2003 and 2010 reforms. These two 1993 and 2003 reforms did not change the minimum retirement age, left equal to 60; they changed only the conditions on the number of years of contributions, raised to 40 years for people born in 1943, in the case of the 1993 reform, and increased further to 41.5 years in the case of the 2003 reform. In 2016, both reforms had added about 0.4 year to the average age at benefit claiming, or 0.8 year on the whole. The impact does not limit to this. The interaction with increasing education levels generates a trend that goes on until the mid-2030s, where the global gain is of a little more than one year. While significant, the impact remains very progressive.

The consequences of the 2010 reform are very different: by raising the minimum age from 60 to 62 within only a few years and with only limited derogations, the reform has an immediate and strong impact on ages at benefit claiming, measured by the gap between the "leg 2011" and the "leg 2009" lines—nearly as much as the two previous reforms over the first five years of implementation.

Further legislative changes have been more limited. First, decisions made in 2012 aimed at moderating rather than amplifying the consequences of the 2010 reform. Like the 1993 and 2003 reforms, the last reform, implemented in 2014, affected the condition on the length of the contribution period, raised to 43 years for the 1970 cohort. The impact should not be negligible in the long run, adding still one half year to the long-run level and bringing it very close to 65 years, but by construction, the impact of this reform has been negligible at this stage.

One interesting complement to such simulations would be the confrontation with observed behaviors and, more specifically, with empirical studies treating whole or part of these past reforms as natural quasi experiments. Empirical evaluations of this kind have been performed by Bozio (2011) for the 1993 reform and by Baraton, Beffy, and Fougère (2011) for the consequences of the 2003 reform on a specific category of public-sector employees: teachers in secondary schooling. Both studies confirm a tendency of retirement behaviors to move in accordance with changes in age at access to the full rate. But applying standard ex post evaluation techniques to these reforms is difficult because of their progressivity and the fact that they have affected only limited numbers of selected individuals. The 2010 reform offers a framework that is much more convenient for the application of these techniques, since it created a strong discontinuity in retirement rules for quasi-adjacent cohorts. Some explorations of this new reform have been performed (Dubois and Koubi 2017; Rabaté and Rochut 2017). They also confirm the impacts of this reform close to the ones that we have micro-

simulated. They also show that, though part of the impact has consisted of larger numbers of people moving to unemployment, another significant part has consisted in effective employment.

4.6   Conclusion

France has recently experienced a clear reversal in the trend of older workers' LFP and employment rates. After decades of continuous decline in the 1970s and 1980s, both rates have started to increase in the late 1990s and are now back to levels unseen since the early 1980s. Structural factors like better health, an increase in female LFP, or higher education levels may have played in the background but are unlikely to explain this reversal. The most likely explanations come from the many institutional reforms implemented since the 1990s; reduced access to early retirement schemes and pension reforms aiming to incentivize workers to delay their retirement have had a marked effect on the increased employment levels of older workers.

While the role of these reforms cannot be disputed, assessing their exact contributions is, however, a more difficult task. Ex post econometric techniques are an interesting possibility that we have briefly touched on at the end of this chapter; they are precisely designed to isolate pure causal impacts, all other factors being held constant. But their limit is that they can generally do no more than showing short-run local impacts for only some components of the reforms—those for which it is possible to isolate comparable and unaffected control groups. The retrospective counterfactual type of simulation that we proposed is better suited for a more global view of what the reforms produced. Such an approach, however, requires some structural behavioral assumptions whose realism may raise problems. The one we have retained here had the advantage of being simple and relatively realistic—retirement at the full rate—but other assumptions could have been made (Bachelet, Beffy, and Blanchet 2011).

Whichever empirical strategy is retained, the idea of separate contributions by the different reforms appears less straightforward than it may have seemed. Reforms interact with each other, and their global effect is not the simple addition of their specific effects taken separately. For instance, the pure role of a reform, such as the 2010 one that raised the minimum age, depends on how far previous reforms had already gone in pushing upward retirement ages above the initial minimum: the more people leaving after 60 due to prereform incentives, the lower the estimated impact of shifting the minimum to 62. Interactions are also at play with early retirement schemes or specific rules in unemployment insurance, and this interaction may work in several directions. Being forced to postpone retirement may induce a parallel shift in all forms of labor market transition before the NRA, according to the "horizon effect" hypothesis. But it can also push more people into these alternative routes. And reforms of these alternative routes may in turn

affect normal retirement behavior: decisions to retire are dependent on what the last years of people's career have been. Interactions exist at last with general background socioeconomic factors, even if, because of their quasi-linear changes, we have argued that these factors are unable to directly account for the trend reversal that occurred during the 2000s.

Such analytical difficulties are all the more present when we move to prospective issues rather than just trying to explain recent changes. The trend toward higher LFP now seems well established, but for how long and how far will it go? The answer to this question depends on how all these factors will interact with each other. And it also depends on how long the simple model of retirement behavior that has been privileged here will remain relevant. It is under the "full-rate" assumption that we are led to predict an average age of retirement between 64 and 65 in 2040.

Whether this behavioral assumption will remain credible over the next decades is an open question. There are strong framing effects that are associated with this full rate: it is still perceived as the age at which it is considered socially "normal" to retire, and it will probably remain so for part of the population. But reforms have also explicitly aimed at eroding the strength of this social reference. First, there is the fact that incentives/penalties for retiring later or earlier than this age are now close to actuarial neutrality, implying that this age is no more "the" age at which it is financially the most rewarding to retire. Second, the NRA is no longer a pivotal age for employers on the demand side of the labor market. Until 2003, the importance of the FRA not only stemmed from the fact that it was the one providing the highest return on contributions from a supply side point of view; it was also due to the fact that it corresponded to the normal termination of the labor contract—that is, the possibility of a separation without the need of a lay-off. This is no longer the case nowadays, and empirical evidence also shows that it has had a partial contribution to behavioral changes in the post-2003 period (Rabaté 2017). On top of all this, the liberalization of rules controlling the combination of work with the perception of pension benefits also made the role of this FRA increasingly fuzzy.

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