

Contours of employment protection reform

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Introduction

There may be no labor market institution more controversial than employment protection regulation—the set of laws and procedures regulating separations between firms and workers.

- Firms complain not only about the direct cost, but also about the complexity and the uncertainty introduced by such regulation. They argue that it makes it difficult for them to adjust to changes in technology and product demand, and that this in turn decreases efficiency, increases cost and, in so doing, deters job creation.
- Workers, on the other hand, focus on the pain of unemployment, and argue that such pain should be taken into account by firms when they consider closing a plant, or laying off a worker. That workers protected by employment protection would favor it is no great surprise. But evidence from surveys shows that support for employment protection is more general, more broad based.

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- Many economists and international economic organizations, from the OECD to the IMF, tend to side with firms. There is, they argue, a trade-off between insurance and efficiency. The current system impedes reallocation, and, by implication, reduces efficiency. It leads to higher costs, and thus lower employment. At a minimum, it could and should be made more efficient. More likely, overall employment protection should be reduced.
- Faced with conflicting advice and demands, the governments of Western Europe have been prudent (or timid, depending on one's point of view.) They have learned, often the hard way, that workers covered by employment protection are not eager to see it reduced, and that these workers represent the majority of the labor force, and a large part of the electorate. So, most if not all of the recent employment protection reforms have worked at the margin, through the introduction and extension of the scope for fixed duration contracts—contracts subject to more limited employment protection and simpler administrative rules. For the most part, employment protection for regular contracts has remained unchanged. The evidence so far is that this dual system has led to an increasingly dual labor market, with mixed efficiency and distributional effects.

Despite the heat and the rhetoric, we are struck at how little work has gone into the question of how “good employment protection regulation” should look like. Starting from the status quo, firms and international organizations have argued for less protection. Workers and unions have fought to keep the protection they had. Governments have looked for politically feasible incremental reforms. But the ultimate goal, the shape of optimal employment protection, has been left undefined.

Consider for example the following questions:

- Should there be any state mandated employment protection, or should “employment at will” remain the principle, leaving any additional protection to voluntary agreements between workers and firms?

- If there is an argument for state mandated employment protection, should this protection simply take the form of a schedule of payments by firms in case of layoffs, with the layoff decision then left to the firm? Or should there be, in place or in addition to such a schedule, other non-price restrictions? In that context, what should be the role of the judicial process, if any?
- How large should payments by firms either to workers or to the state be? Should firms pay workers directly, or should they pay the state? Should the payments cover, in expected value or in realization, the unemployment benefits and other payments received by laid-off workers? Should the payments be made by firms at the time the layoffs take place, or should they be paid over time, as in the case in experience rated systems?

This chapter's primary purpose is to answer these questions, and to apply the answers to draw the contours of institutional reform in the French context.

We organize our discussion by starting from a simple benchmark. In that benchmark, firms and the state are risk neutral. Workers are risk averse and cannot fully self-insure against unemployment. In that context, characterizing optimal employment protection is straightforward. Firms must be made to internalize the cost of unemployment. So, if for example, unemployment benefits are administered by an unemployment agency, firms must pay contributions to the agency equal to the present value of unemployment benefits paid by the agency to the worker they layoff. Put another way, the contribution rate of firms, defined as the ratio of contributions paid by the firm to the benefits received by the worker, must be equal to one. In that sense, unemployment insurance and employment protection are both integral parts of the optimal set of labor market institutions.

This benchmark, like all benchmarks, is both useful and too simple. The labor market suffers from many imperfections, and most of them impinge on the nature of optimal labor market institutions. These range from the need to give the unemployed incentives to search for a job, to the scope for ex-post renegotiation of wages, to liquidity constraints faced by firms.

Each of these imperfections affects the optimal contribution rate, and thus the optimal degree of employment protection. But the general principle remains, that of making firms internalize, to the extent possible, the social cost of unemployment.

Turning to actual institutions, it is clear that this principle is at odds with the French system of employment protection in at least two main dimensions.

First, in the French system, contributions by firms to the unemployment insurance fund take the form of payroll taxes: A firm with a higher layoff rate does not pay higher contributions. Severance payments, as set in the law, are low. In other words, the contribution rate is (close to) zero. Second, the layoff process is subject to heavy administrative and judicial control. Firms have to prove either fault by the worker in the case of an individual layoff, or economic need in the case of collective layoffs. Judges can and often do disagree with the firms' decisions, leading to substantial time and financial penalties on firms.

This diagnosis naturally leads to our two main recommendations for reform:

- First, to increase the contribution rate of firms (that is introduce a layoff tax, and decrease the corresponding payroll tax) so firms internalize the cost of unemployment.
- Second, to limit the role of the judicial system. To the extent that firms are willing to incur the financial costs associated with laying off workers (and we are arguing that these costs should be higher at the margin than they are today), judges should not be allowed to second guess their decisions.

Our chapter is organized in nine sections.

Section 1 surveys of what is known—and not known—about the effects of existing systems of employment protection on the nature of labor markets—from the flows of separations, to the duration of unemployment, to the level of unemployment, to the response of the economy to shocks.

Sections 2 to 6 then focus on the optimal design of employment protection:

Section 2 characterizes optimal employment protection in the benchmark economy. The next three sections explore three main deviations from the benchmark, and their implications for employment protection. Section 3 introduces limits on unemployment insurance, coming from search or shirking incentive constraints. Section 4 explores the implications of liquidity constraints on firms. Section 5 explores the implications of alternative forms of wage setting. Building on these extensions, Section 6 discusses quits versus layoffs, and the role of the judicial process.

Section 7 attempts to put all these elements together, and draws conclusions about the contours of optimal employment protection. (Those readers who have no particular love for economic theory can go directly to Section 7 and get, we hope, the basic logic behind our conclusions).

Section 8 then returns to the employment protection system in place in France today. Our purpose here is not to give an exhaustive description of the system, but rather to examine it in the light of our earlier analysis of how an optimal system might look, and to point out the major differences.

Having done so, we sketch in Section 9 the contours of what employment protection reform might look like in the case of France.

1 Employment protection and the labor market. Some empirical evidence

Most theories of the labor market suggest that employment protection—that is, either legal and administrative restrictions on layoffs, or tax payments to the state in case of layoffs, or severance payments to laid-off workers—is likely to have the following effects:

- It is likely to lead to lower layoff rates, and thus to smaller flows of workers through the labor market.
- It is likely to increase unemployment duration.¹

1. The mechanism is the following: The increase in employment protection is likely to increase firms' costs. This increase in costs leads in turn to lower job creation and so to lower hiring, until the resulting increase in unemployment duration, which makes

- It is therefore likely to have a strong effect on the nature of the labor market, making it more stagnant, more “sclerotic” (smaller flows in and out, and higher duration of unemployment). But its effect on the unemployment rate itself, the product of duration and flows, is ambiguous.

1.1 Cross country evidence

The empirical cross-country evidence is indeed largely consistent with these implications:²

- Based on the indexes of employment protection constructed by the OECD and various other authors, there appears to be a strong negative correlation across countries between employment protection and flows of workers in and out of employment, or in and out of unemployment.³
- Using the same indexes, there appears to be a positive correlation between employment protection and unemployment duration. Countries with high employment protection tend to have higher individual average unemployment duration.
- The unemployment rate is the product of unemployment duration and the flows of workers in (or out of) unemployment.⁴ Employment protection increases duration and decreases flows. The result of the two effects turns out to be a nearly zero cross-country correlation between protection and the unemployment rate.

The comparison between Portugal and the United States is revealing here (see [Blanchard and Portugal2001] for more details). Despite the fact that the degree of employment protection is much higher in Portugal than in the United States, the two countries have had

unemployment more painful, reduces wages and returns costs to a level consistent with the required rate of return on capital.

2. For recent surveys, see [OECD1999a], and [Addison and Teixeira2001].

3. Whether such indexes can successfully capture the many dimensions of employment protection is open to discussion. To a first approximation, we believe the ranking of countries implied by these indexes is not misleading.

4. For example, if the average duration of unemployment is six months, and the flow of workers who become unemployed each month is equal to 2% of the labor force, the unemployment rate is equal to $6 \times 2\%$, or 12%.

roughly the same average unemployment rate over the past 30 years. These two unemployment rates hide however a very different reality: Unemployment duration has been three times higher on average in Portugal than in the United States; flows (relative to employment) three times lower.

These points are illustrated in the three panels of Figure 1, taken from [Blanchard and Portugal2001], that plots flows, duration, and the unemployment rate against measures of employment protection for 19 OECD countries.

Monthly flows into unemployment are constructed as the average number of workers unemployed for less than one month, for the period 1985-1994, divided by the average labor force during the same period, for each OECD country.

Unemployment duration is constructed as the ratio of the average unemployment rate for the period 1985-1994 to the flow into unemployment constructed above.

The employment protection index, “EPL”, is the overall index constructed by the OECD for the late 1980s ([OECD1999b], Table 2-5); this index is a rank index for 19 countries, going from low to high protection (The index is based solely on institutional aspects of employment protection, not on labor market outcomes.) The value of the index goes from 1 for the United States to 19 for Portugal (10 for France)

The top part of the figure shows a clear negative relation between the flow into unemployment (as a ratio to the labor force) and employment protection. The middle part shows a clear positive relation between unemployment duration and employment protection. The bottom part shows roughly no relation between the unemployment rate and employment protection. Regressions of the log flow, log duration, and the log unemployment rate on the employment protection index give:

log flow	=	0.50	-0.078 EPL	$\bar{R}^2 = 0.46$
			(sd = 0.020)	
log duration	=	1.65	+0.073 EPL	$\bar{R}^2 = 0.19$
			(sd = 0.033)	
log u rate	=	2.16	-0.005 EPL	$\bar{R}^2 = -0.06$
			(sd = 0.019)	

Thus, an increase in employment protection leads to a decrease in flows, and an increase in unemployment duration. But the two effects roughly cancel each other when looking at unemployment.

Based on these cross-country findings, the effects of employment protection appear quite bad: Employment protection decreases flows, and thus presumably decreases reallocation and efficiency. And, because it increases unemployment duration, not only does it does not decrease unemployment, but it makes individual unemployment experiences more painful.

In addition, research on the evolution on unemployment over time and over countries, shows that countries with the more sclerotic labor markets (lower flows, higher duration) are also the countries which have suffered the largest and/or the more persistent increases in unemployment over the last 30 years (see for example [Blanchard and Wolfers2000].) This suggests that, to the extent that employment protection leads to more sclerotic labor markets, it also leads to larger and longer lasting effects of shocks on unemployment.

1.2 Two puzzles

The case is in fact not as tight as it looks. First, there are a few disturbing puzzles, facts that do not quite fit the general picture. Second—and to state the obvious—correlation does not imply causality. Let us take both points in turn.

In looking at reallocation in the labor market, economists have constructed two different sets of measures:

- The first, called “worker flows”, are measures of the number of workers who change employment status over a given interval of time; for example, monthly flows from employment to unemployment, divided by total employment (as was used in Figure 1 above).
- The second, called “job flows”, are measures of changes in employment levels of firms. Two standard measures here are “job creation”, defined as the sum of changes in employment levels over a given interval of time, at all firms with a net increase in employment, divided by total employment; and “job destruction” defined as the sum of employment changes over a given interval at all firms with a net increase in employment.

The empirical puzzle is the following. As we saw above, measures of worker flows—for example flows out of employment—are lower in countries with higher employment protection. Measures of job flows—for example, measures of job destruction—appear however rather similar across countries. The puzzle is an important one to resolve: Worker flows suggest a strong adverse impact of employment protection on reallocation; job flows do not.

There are conceptually three reasons why the series on flows out of employment and the series for job creation may differ:

- Measurement errors. Worker and job flows are typically constructed from different sources; one source may be more reliable than the other. Also, because of differences in data construction, comparisons across countries may be misleading. While, indeed, comparisons across countries are often difficult, this line does not appear to be the key to solving the puzzle.
- Quits by workers. Such quits will show in worker flows, but if firms quickly replace the workers who have quit, will not show up in changes in employment levels of firms, and thus will not show up in job destruction. Based on a comparison of Portugal and the United States (a pair of countries chosen both for the difference in their labor markets, and the quality and comparability of their data), this appears to be relevant. One hypothesis is that to the extent that employment protection leads to long unemployment duration, it also

makes employed workers reluctant to quit and look for another job, leading to lower quits.

- Differences in time intervals. Measures of job creation are typically constructed by looking at employment changes over a year. Measures of worker flows are often constructed at quarterly or monthly frequencies. Thus, transitory movements in firms' employment levels, movements reversed over the course of the year will show up in (say, monthly) worker flows, not in (say, annual) job flows. This indeed seems to be also part of the explanation. Firms in countries with high employment protection appear to smooth employment more, to reduce expected transitory movements in employment.

If this is true, this has an important implication. It suggests that employment protection reduces transitory movements in employment. But it may not stand in the way of low-frequency reallocation, the kind of reallocation required by the process of structural change associated with growth.

These hypotheses are still tentative, and the subject of current research (see for example [Bertola and Rogerson1997], and [Boeri1999]) But they indicate that the link between employment protection and reallocation is more complex than it looks at first glance.

The other puzzle is a macroeconomic one. One would expect higher employment protection to lead to a slower and weaker response of aggregate employment to fluctuations in aggregate output. While this relation seems to hold roughly across countries, there is a number of exceptions. One striking such exception is Spain, one of the countries with the highest indexes of employment protection, where the response of aggregate employment to aggregate output is both strong and fast, stronger and faster for example than in the United States. (This is true even for the time period when temporary contracts played a much smaller role in Spain than they do today. [Bentolila and Blanchard1990].) We know of no good explanation for this puzzle.

1.3 Correlations versus causality

The cross country relation between employment protection and worker flows or unemployment duration, is suggestive of causality, but is hardly conclusive.

It is easy to think of other labor market institutions that may be correlated with employment protection and also affect flows and duration, yielding spurious correlations between protection and either flows or duration. In that respect, it is reassuring that, while we looked earlier at simple correlations and bivariate regressions, the empirical evidence suggests that the same results apply to partial correlations and multivariate regressions: Controlling for a number of other labor market institutions, such as the generosity of unemployment insurance systems or the nature of collective bargaining, higher employment protection still appears to affect flows negatively, and unemployment duration positively.⁵ But even this evidence can easily be challenged: The other relevant institutions may be poorly measured, or simply not included in the regressions.

And labor market institutions, including employment protection, are not exogenous. It is also easy to think of factors which might lead to both higher employment protection and low worker flows, without implying a causal relation from protection to flows (Think for example of a poorly developed mortgage market or high turnover taxes on housing, leading to low turnover in the housing market, low geographical mobility, and a political demand for employment protection).

More conclusive evidence can only be obtained by observing the effects of changes in employment protection over time and space. Here, and somewhat ironically, most of the available evidence comes from the United States. Ironically, because the United States is often thought to be the country with no employment protection. But, while, indeed, “employment at will” remains largely the rule and administrative restrictions on layoffs are minimal (for further discussion, see [Autor et al.2002]), the “experience rating” system implies that firms pay a large part of the cost of the unemploy-

5. See for example [Nickell1997].

ment benefits received by the workers they lay off.⁶ And because the design of the system is left to each state, there are substantial variations both across states and across time.⁷ These variations have been exploited by a number of researchers to obtain estimates of the effects of changes in the contribution rate on various dimensions of the labor market.⁸

One must be careful about the lessons one can draw from these empirical studies for the design of employment protection at the level of a country. Increasing the contribution rate in one U.S. state but not in others, under conditions of high labor mobility across states, is likely to have very different implications for wages, flows, and unemployment than would increasing the contribution rate in all U.S. states at once (the type of change we want to think about when thinking about reform in a country). Nevertheless, some results come out relatively clearly, and are of direct relevance for us. In particular, a higher contribution rate clearly leads to a decrease in layoff rates. For example, estimates from [Anderson and Meyer1998], based on the 1984 change for the state of Washington, imply that an increase in the contribution rate from zero to one would have decreased layoffs by about 20%. Other relevant findings are that a higher contribution rate decreases seasonal fluctuations in employment (for a review, see [Baicker et al.1997]), and that a higher contribution rate increases the use of temporary help services by firms ([Autor2001]).

1.4 The effect of recent reforms.

Over the past 20 years, many European governments have attempted to reduce employment protection at the margin, by allowing firms, under spe-

6. For a review of the U.S. experience rating system and its potential implications for France, see [Margolis and Fougere1999].

7. Variations over states: In 1996, contribution rates (the ratio of tax payments by firms to benefits paid by the state to laid off workers) ranged from 8% in North Carolina to 86% in the state of New York. Variations over time: In 1984, the state of Washington moved from a zero contribution rate to a contribution rate of 50%.

8. In another ironic twist (relative to the spirit of the debate on employment protection in Europe), this line of research often starts from the presumption that increasing the contribution rate to one—in other words, increasing employment protection— would be desirable. The argument is that this would lead firms to fully take into account the social costs of unemployment. As we shall see, this argument is incomplete and the optimal contribution rate is probably less than unity.

cific conditions, to offer contracts with more limited employment protection. These contracts are typically of short maximum duration, with restrictions on renewals, on what type of worker or what type of job they can be used for. In France, these contracts are known as CDD (“contrats a durée déterminée,” fixed duration contracts), in contrast to the regular contracts, known as CDI (“contrats a durée indéterminée”, contracts of indeterminate duration), and now account for 70% of new hires and 11% of employment (46% of employment for the 20 to 24 year olds).

The evidence is that the introduction of these temporary contracts considerably modifies the nature of the labor market.⁹ It leads to higher turnover for those eligible for such contracts. The effects on both unemployment and estimates of welfare however are far from obvious. Much of the turnover appears to reflect a succession of low productivity, often dead end, jobs, and an increasingly dual labor market. Perhaps the main problem is that firms are very reluctant to keep workers at the end of their CDD: Even if the worker proves to be a good match, it may be more attractive for firms to let him or her go and hire a new worker on a CDD, rather than keeping the existing worker under a CDI. Based on the evidence to date, the main effect of CDDs appears to be the emergence of an increasingly dual labor market.

2 Designing employment protection. A benchmark.

In thinking about the issues, it is useful to start from a simple benchmark, which shows most clearly the relation between unemployment insurance and employment protection.

2.1 The benchmark economy

Think of the following economy.¹⁰

9. See the symposium on this topic in the *Economic Journal*, 2002, including [Dolado et al.2002] for Spain (the country with the highest proportion of workers on fixed duration contracts), and [Blanchard and Landier2002] for France.

10. A formal model underlying the arguments (or to be honest, most of the arguments, as we have sometimes taken educated guesses beyond what our model could answer...)

- Firms hire workers.
- After a worker has been hired by a firm, the firm learns about the productivity of the worker (that productivity may depend on the quality of the match between the worker and the firm, or on the demand for the firm's product, and so on)
- The firm may then want to keep the worker and produce, or lay the worker off. If the worker is laid off, he becomes unemployed.
- Absent any additional income, the utility of the worker when unemployed, is low: Put another way, and the terminology will be useful below, absent additional income, the "wage equivalent of being unemployed" is low.
- Workers are risk averse. Firms are risk neutral.
- There are no information problems, so everything is observable and contractable.

Under these conditions, firms will offer the following contract to workers:

- They will fully insure workers. They will do so by paying a constant wage to the workers they keep, and a severance payment to the workers they lay off.

The severance payment will be such that the severance pay is equal to the wage, minus the wage equivalent of being unemployed. Workers will therefore have the same level of utility, whether or not they are employed or unemployed.

- They will lay workers off when productivity is lower than the wage equivalent of being unemployed.

This is clearly the socially efficient rule for layoffs: From an efficiency point of view, workers should be kept on only if their productivity is higher than what the wage equivalent of being unemployed.

And firms do not need to commit to do so, because they fully internalize the cost of a layoff for workers. Given the wage and the severance pay, ex-post profit maximization leads them to lay a worker off only if productivity is less than the net labor cost, that is less than the wage minus severance pay, equivalently if productivity is less

in this and the next four sections is presented in [Blanchard and Tirole2003].

than the wage equivalent of being unemployed. But this is exactly the same as the efficiency condition above.

In short: Severance pay will be used to fully insure workers. And its presence will lead firms to take efficient separation decisions.

- Knowing that they will receive severance payments if they are laid off will lead workers to accept a lower wage in exchange. And because workers are risk averse, the provision of insurance by firms will decrease their overall expected labor cost. Thus, firms will be eager to offer severance payments: this increases their expected profit.

In that economy, there will be substantial employment protection. It will take the form of severance payments by firms to laid off workers, sufficient to insure them against the loss of utility if unemployed. But, in that economy also, there will be no need for the government to mandate employment protection: Firms will provide it willingly, and in the right amount.

2.2 Introducing an unemployment agency

To fully insure workers, firms must be able to assess the utility loss from unemployment. This is not easy for them to do:

- As of the time of the layoff, this loss is a random variable: The outcome of search is uncertain, and the worker does not know how long he is going to be unemployed. If the firm were to make a one-time severance payment to offset that loss, this one-time payment would do a poor job of insuring the laid off worker.
- If the firm decides instead to pay the laid off worker over time, contingent on his unemployment status, many other issues arise: The difficulty for the firm to actually track the worker, and determine whether he is still unemployed or has found another job; the difficulty in monitoring his search effort and making sure that he is indeed looking for another job.
- Rather obviously, individual firms cannot monitor laid off workers well enough to provide them with adequate insurance. The role of

monitoring unemployment status and search intensity must be therefore delegated to an agency, private or public.

The state, given its existing administrative structure, is likely to be in the best position to do the monitoring, and to administer the payment of unemployment benefits, either alone or in conjunction with the private sector.¹¹

So, go back to our benchmark, but now suppose that an agency is put in charge of monitoring and distributing unemployment benefits to the unemployed. Suppose further that the agency can perfectly monitor and thus provide unemployment insurance at no cost in terms of search intensity of the unemployed. How will this change the outcome relative to the benchmark?

The answer is: Not much.

- Firms, when they lay a worker off, will make unemployment contributions to the unemployment agency—payments equal to the expected value of the unemployment benefits to be paid to the laid off worker, or payments over time corresponding to the unemployment benefits actually paid to the laid off worker.
- The unemployment agency in turn will monitor and give unemployment benefits to the laid off workers for as long as they are unemployed.
- There will be a sharper institutional distinction between unemployment contributions (paid by firms to the agency) and unemployment benefits (paid by the agency to workers). But, in this benchmark, the two will still be equal. The *contribution rate*—defined as the ratio of the contribution paid by the firm to the value of the unemployment benefits received by the laid off worker— will be equal to one. (As we shall see, this will no longer be the case when we introduce other labor market distortions).
- The allocation will be the same. Workers will be fully insured. Firms, because of the unemployment contributions they have to make to

11. This is indeed the French solution, with the combination of the state run ANPE and the tripartite (government, business organizations, and unions) UNEDIC-ASSEDIC.

the agency in case of layoff, will fully internalize the social cost of unemployment and choose an efficient level of separations. There will be no trade-off between insurance and efficiency.

2.3 Unemployment contributions or severance payments?

We have so far interpreted unemployment contributions as a form of employment protection. A system in which all payments are made from firms to the state rather than to workers indeed provides employment protection to the workers: It makes it more expensive for firms to lay workers off, and thus reduces layoffs. But it may not look and feel like employment protection to the workers, who do not see the unemployment contributions paid by firms to the state, and do not receive payments directly from the firm.

It is therefore worth asking whether some payments could or should be made by firms to workers directly at the time of layoff. To do so, it is useful to distinguish between the costs of “becoming unemployed” and the costs of “being unemployed.”

- The cost of becoming unemployed is the cost associated with losing a job, not with unemployment per se. It is a psychic cost, and while it is often ignored by economists, it plays an important role in public discussions of employment protection¹², and its relevance has been well documented by social psychologists¹³. The loss of a long held job can and often does lead to a loss of a network of workplace friends, health deterioration, a loss of self esteem.
- The cost of being unemployed is the financial and psychic cost from remaining unemployed until one has found another job.

For our purposes, the main difference between these two costs is that the first is incurred at the time of the separation, and thus can be offset (in terms of utility) by a one-time payment from the firm to the worker. The

12. Two quotes from judges at the Prud’hommes, the French labor courts (translated from French) : “Employers have a hard time understanding that the main issue is not the financial loss. Psychologically, a layoff is very tough. For the family. For your health. It puts your whole life into question.” and “People put their lives in their jobs. And, at once, everything is taken away from them”. (Liberation December 2, 2002).

13. For example, [Price1992], and studies at the Michigan Prevention Research Center.

second, instead, is random at the time of the layoff. This suggests a natural division of tasks: Severance payments from firms to workers, at the time of the layoff, to compensate them for the cost of becoming unemployed. And unemployment benefits from the agency to workers, paid over time, and financed by payments from firms to the agency, to compensate workers for the cost of being unemployed.

In that light, how should the schedule of severance payments look like? The psychic loss appears to be primarily a function of time in the job of seniority. It is likely to be low for workers with low seniority, and to become high only with high seniority.¹⁴ This suggests an increasing and convex schedule of severance payments as a function of seniority.¹⁵

Having established a framework, we consider in the next three sections three major deviations from the benchmark, and discuss, in each case, how they modify our conclusions.

3 Limited unemployment insurance

In our benchmark, the unemployment agency fully insured laid off workers. But, to the extent that the agency cannot fully monitor the search behavior of the unemployed, it can only offer limited insurance: Offering anything close to full insurance would lead the unemployed to stop searching and remain unemployed.

This issue has been studied at length in the theoretical and empirical literature on unemployment insurance.¹⁶ And a number of recent reforms of the unemployment system in Europe, such as the PARE in France, have indeed

14. A fact consistent with this hypothesis (but also with a number of others): In France, there are four times as many quits as layoffs for workers with 2 to 9 years of seniority, but four times as many layoffs than quits for workers with 10 or more years of seniority ([Goux and Maurin2000], Table A1.)

15. For usual incentive constraint reasons, the schedule cannot however be too steep; otherwise it would give incentives for firms to layoff workers at mid-career, i.e. when the severance payments associated with laying them off are still relatively low.

16. For a recent survey, see for example [Frederiksson and Holmlund2003].

had as their goal to combine more generous and longer lasting unemployment benefits with stronger incentives for the unemployed to accept jobs if offered by the unemployment agency. These reforms clearly go in the right direction. They potentially offer better tailored insurance: If truly no jobs are available, then the unemployed continue to receive unemployment benefits. And they remove, at least in principle, some of the problems associated with the open ended unemployment benefits of the past. But realistically, even the best designed systems cannot fully eliminate monitoring problems, and so, less than full insurance is optimal: There has to be some utility cost to unemployment to motivate search.

In such a context, the optimal employment protection/unemployment benefits system is more complex to characterize. The general architecture remains the same, but the details are different:

- The unemployment agency pays unemployment benefits to workers, providing as much partial insurance as is consistent with search incentives.
- The lower the feasible level of insurance, the higher the utility costs that layoffs impose on laid-off workers. So, to lead firms to take these costs into account, unemployment contributions by firms to the agency must now exceed the unemployment benefits paid by the agency to workers: *The optimal contribution rate is now greater than one.* And the layoff rate is smaller than in the benchmark.
- So, the more stringent the constraints on the amount of insurance the agency can provide, the higher the contribution rate relative to the benchmark, the lower the layoff rate, and, in this sense, the higher the optimal degree of employment protection.

Three remarks before moving on.

- Under this deviation from the benchmark, unemployment insurance and employment protection are substitutes, not complements. The poorer the insurance, the higher the optimal degree of employment protection. While the result is normative, this negative relation appears to be present in the data across Continental European coun-

tries.¹⁷ The countries with the highest degree of employment protection (using the OECD index) are also the countries where unemployment insurance coverage has been relatively limited.

Here, the political economy explanation may actually follow the same logic as our normative argument. To the extent that unemployment insurance was historically limited, employment protection probably served as a partial substitute.

It is however a potentially poor substitute, leading to too few layoffs from the point of view of allocation. Thus, reforms of the unemployment system which introduce better monitoring and thus allow for better insurance have the added advantage of potentially allowing for a decrease in employment protection towards the benchmark, and thus a smaller cost in terms of reallocation.

- The results above bear a close relation to the results obtained in the “implicit contract literature” of the 1970s and early 1980s (in particular [Baily1974], [Azariadis1975], [Akerlof and Miyazaki1980]). That literature looked at the optimal contract between risk neutral and risk averse workers. Under the assumption that there were neither severance payments nor unemployment benefits, one of the conclusions was that there would be overemployment, that firms would layoff too little relative to the efficient outcome. One of the criticisms addressed to those papers was the question of why firms did not offer unemployment insurance or severance payments. In the discussion here, the limits come from monitoring problems, and the solution takes the form of a layoff tax rate imposed by the state. But the logic is very much the same.
- Returning to the discussion of unemployment benefits versus severance payments discussed in the previous section: It has sometimes been argued that severance payments are preferable because they do not lead to the search incentive problems discussed here. This is correct, but fixed payments in the face of random unemployment duration deliver very poor unemployment insurance. Even if search

17. See for example [Boeri2002].

considerations imply declining unemployment benefits over time, it is unlikely that the optimal schedule consists of a lump sum payment at the start, and nothing thereafter.

Only if the administrative costs of setting up an unemployment agency appear prohibitive, does a system based on severance payments make sense. This may be the case for some low and middle income countries; it is surely not the case for France.

4 Risk aversion and shallow pockets.

A second assumption of our benchmark was that firms were risk neutral, had deep pockets, and could therefore fully insure workers (with the help of an agency to run the unemployment insurance system, and subject to the discussion we just had about incentives to search when unemployed).

This assumption is also clearly too strong. It is based on the idea that, if firms are widely held, most of the risk faced by a firm is diversifiable. But while most of the variations faced by firms are idiosyncratic, some are not. And most small firms are not widely held. Many are privately held, and their owners' wealth is not much diversified. So, the assumption of risk neutrality is, especially for small firms, too strong.

And, even if we were to assume that firms are risk neutral, the assumption that they have deep pockets, and thus can pay workers in bad states, is also too strong. Clearly a firm that has gone bankrupt may not be able to pay its unemployment contributions or make severance payments. But short of this extreme case, corporate finance suggests that the shadow price of internal funds to firms is likely to be a decreasing function of the state: The shadow price of severance payments to workers or payments to the state in bad states, even if feasible, may be high; the funds could be better used for other purposes.

Now, to state the obvious: Layoffs are more likely to take place in bad states, when the shadow price of internal funds is high, than in good states. And so, a higher layoff tax may potentially make things worse for firms,

imposing a high utility cost on the small entrepreneur, or preventing the larger firm from taking other measures required to improve its situation. One may hope that, in response to an increase in layoff taxes, financial markets will partly adjust to alleviate the problem, providing more funds to the firms in bad times to allow them to pay the now higher layoff taxes. But, more likely than not, the adjustment is likely to be only partial.

What should the state then do?

- Separate the timing of layoffs from the timing of unemployment contributions. Ideally, the state should collect layoff taxes from firms in good states rather than in bad states. And tax payments to the agency should depend on the probability of layoffs: Firms which, for some reason (a different distribution of productivity or demand shocks for example), have a higher probability of laying workers off should make higher contributions.

The problem is how to design such a system, or an approximation to such a system, in practice. One possibility, and that adopted for example in the United States, is to introduce a bonus–malus, or an experience rated system. We return to it below.

- Even the best designed experience–rated systems are unlikely to fully eliminate the additional liquidity problems created by layoff taxes. If so, it may then be optimal for the government to choose a lower layoff tax rate, and thus a *contribution rate lower than one*. This decreases the tax burden on firms in bad times. Obviously, it does so at the cost of raising another distortion: A contribution rate below one leads firms not to fully internalize the costs of layoffs, and thus leads to too high a layoff rate.

In the rest of section, we take up two related issues. First, the design of experience rated systems; second, the issues raised by limited liability and the possibility of bankruptcy, issues we have left aside up to now.

4.1 Bonus malus, and experience rated systems

As we have just seen, an ideal collection system for layoff taxes is one in which the state (to the extent that it has deeper pockets than the firms)

collects layoff taxes in good states rather than in bad states, and where the tax rate to be based on the firm specific probability of layoffs.

Two obvious problems in practice are that both the state faced by the firm and the probability of layoff by the firm are likely to be unobservable by the agency. A natural solution is then to base the payments of firms on their past behavior (as in a bonus–malus system), and to allow them to pay the taxes over time. This is the rationale for so called “experience rated” systems of unemployment contributions used in particular in the United States (A useful description of the US experience is given in [Fougère and Margolis2000])

The systems vary across U.S. states. It is useful to describe the most commonly used system, called the “reserve ratio” system of unemployment contributions. Leaving aside the many complicated details, its principle is simple:

Each firm has a running balance with the state unemployment agency, with contributions by the firm to the fund on one side, and benefits paid by the agency to the workers laid off by the firm on the other. Once a year, the state computes the net outstanding balance, and requires the firm to pay some proportion of this outstanding balance over the following year. The factor of proportionality depends both on the net balance of the firm, and the net balance of the state fund as a whole. This system has two implications:

- Ignoring discounting, and assuming that firms do not go bankrupt and do not hit the various ceilings that limit contributions (all considerations being relevant in practice), firms eventually pay the full cost of unemployment benefits for the workers they lay off—the contribution rate is equal to one.
- The factor of proportionality determines how the timing of payments depends on current and past layoffs. If the factor of proportionality is equal to one, so firms are asked to return to zero balance each year, then payments are closely related to current (or more precisely last year’s) layoffs. The lower the factor of proportionality, the more contributions depend on past layoffs.

How should one then think about the choice of the factor of proportionality? If firms are operating in a stable, ergodic, environment, going sometimes through good times, sometimes through bad times, then letting the factor of proportionality be small will make the firm's contributions depend on its mean observed layoff rate in the past, which is also equal to the probability of a layoff in the future. If, however, as is more likely, the underlying probability changes over time, then a higher factor of proportionality, giving more weight to recent layoffs, will be closer to the underlying current probability. But it will impose higher liquidity costs on firms.

4.2 Bankruptcy, and the role of firm guarantees

The possibility for firms to pay layoff taxes over time rather than at the time the layoffs take place raises an issue that we have avoided so far. This is the possibility for firms to evade taxes by going bankrupt. Absent firm guarantees, or other commitments, a firm that lays off its workers at the same time it declares bankruptcy may be able to avoid paying most if not all layoff taxes. And the problem is likely to be worse under an experience rated system. The longer the lag between layoffs and tax payments, the larger the proportion of layoff taxes a firm will be able to avoid through bankruptcy.¹⁸

This is likely to lead some firms to reorganize so as to make it easier to avoid paying taxes. Ways of doing so include isolating high risk divisions and transforming them into separate legal units with little collateral, so that, in case of bankruptcy, there are few or no assets left to the agency or any other creditor to recover (leaving the unit "judgment proof"). Such a behavior has been well documented in the case of environmental protection (see for example [Ringleb and Wiggins1990].) And, as recent examples such as the bankruptcy of MetalEurop show, some European firms are already moving systematically in that direction.¹⁹

18. Our understanding from Table 4 in [Margolis and Fougere1999] is that the proportion of contributions due but not paid because of bankruptcy is under 10% in most U.S. states, with some exceptions (for example, California with 13%).

19. Interestingly, the correlation between the stated contribution rate and the bankruptcy rate across US states appears to be small ([Margolis and Fougere1999].) If in-

What should the state then do?

- It should, as is already the case for other legal obligations, have senior creditor status. But there may not be enough assets left even for the senior creditors to collect.
- It can extend responsibility for payments of these taxes to third parties.

This is for example the approach taken by the law on environmental liability passed in the United States in 1980 (a law called the Comprehensive Environmental Response, Compensation, and Liability Act, or CERCLA). Under that law, if a bankrupt firm cannot pay for decontamination of a site, the state can go after any “potentially responsible party”. What this means is unclear and evolving; it may include suppliers, investors, or new site owners.

- It can ask for more guarantees, in the form of collateral, physical or financial, or of bank guarantees to cover potential layoff taxes.

Guarantees, collateral, and extension of liability to third parties all have costs. Collateral may be better used for other activities. Third parties may prefer not to deal with a firm if this exposes them to potential tax liabilities. We have no set view, and the evidence from environmental protection is still unclear. Nevertheless, any proposal to increase the contribution rate of firms must confront the issue.

5 Insurance, employment protection, and wage determination

A third assumption of our benchmark was that wages were set at the time of hiring. So, to the extent that firms (or the overall system of unemployment insurance cum employment protection) offered insurance in case of layoff,

terpreted as a causal relation from the contribution rate to the probability of bankruptcy, this would imply that increasing the contribution rate may not have much impact on bankruptcy rates. But there are reasons to be skeptical of this causal interpretation. For example, firms with high risk are more likely to incorporate or move operations to states with a low contribution rate.

risk averse workers were willing to accept a lower wage on the job, and willing to accept lower expected income overall.

This may not be the right view of wage setting. True, initial wages are set at the time of hire. But these are only set for a short period of time, at which point they may be renegotiated. At that point, wages will reflect the bargaining position of each side. This has important implications.

5.1 Ex-post wage setting, and bonding

Consider two firms:

- One offers severance payments to its workers, makes unemployment contributions to the state, and the workers it lays off receive unemployment benefits. The other does not offer severance, does not make unemployment contributions, and the workers it lays off do not receive unemployment benefits.

If wages are set at the time of hiring, the first firm will be able to offer lower wages, and indeed, because workers are risk averse and value the insurance the firm provides, it will have lower expected labor costs than the second.

- Now suppose that workers can renegotiate wages after hiring. Then, workers in the first firm will be in a much stronger bargaining position than in the second. If they find themselves unemployed, they will receive unemployment benefits. And, if the firm wants to lay them off, the firm will have to pay severance and contributions to the state. Thus, the firm that provides insurance will now have higher wages and by implication expected labor costs than the second.
- Given the choice, firms will therefore not be eager to offer insurance. And, if the state puts in place a schedule of severance payments, of unemployment contributions, and of unemployment benefits, along the lines we described in the benchmark, all three components will lead to higher wages, and thus to higher expected costs for firms.

This view of wage setting may itself be too extreme. The central issue here is known in labor economics as “bonding”.

Suppose firms could extract “bonds” from workers—that is payments from workers at the time of hiring to compensate for the increase in wages they know will take place after hiring. Firms could then eliminate the effects of ex-post bargaining on cost.²⁰ If bonding was prevalent, we would be much closer to the benchmark model, or the extensions we saw earlier: Firms would be willing to pay severance to the workers or make payments to the state as under our benchmark. Whatever increase in cost this implied, they could recoup through the receipt of a sufficiently large bond at the time of hiring.

The obvious remark at this point is that we just do not observe “naked” bonding: Workers do not pay firms at the time of hiring. Bonding however exists in more disguised forms: Some workers accept to be paid a low initial wage, in effect paying a bond early in their job tenure, to partly compensate the firm for the higher wages later in their job tenure. Yet, in practice, the room for bonding is limited, and so the conclusion must be that insurance cum employment protection is more likely to increase than to decrease labor costs.²¹

What should the state then do? It clearly faces a trade-off:

- Choosing a contribution rate equal to unity, i.e. a system that makes firms pay for the full cost of an additional layoff, will lead firms to take the right decision at the destruction margin: Layoffs will take place only when the productivity of a job is less than the wage equivalent of being unemployed.

But this high contribution rate will also increase the bargaining power of workers, and thus increase the wage. This will increase the overall cost of labor, both directly and indirectly, and will adversely affect job creation. How much will depend on the amount of

20. For an early discussion of the role and the scope of bonding in the context of employment protection, see [Lazear1990].

21. Think for example of public employees. Given the high degree of employment protection and the typically generous retirement benefits, many are willing to become public employees even if wages are lower than in the private sector. But, because they cannot be laid off, except at great cost, public employees are in a very strong bargaining position, and sometimes use it to extract higher wages or other advantages from the state.

effective bonding.

- Choosing a contribution rate less than one, will lead firms, in contrast, to destroy too many jobs, and lead to too many layoffs. It will however lead to a smaller increase in the overall cost of labor, both directly and indirectly (through the effect on wages), and thus have a smaller adverse effect on employment creation.²²

Parallel arguments apply to the direct severance payments part (but for one difference: In the case of the contribution rate, we were looking at the effects of varying firm contributions, keeping unemployment benefits the same. Here, by the very nature of direct severance payments, we are changing both the firm's contributions, and the benefits received by workers). The closer these payments are to fully compensating for the psychic costs to workers of being laid off, the less distorted the destruction decision. But the higher is then the cost of labor, both directly and indirectly, and so the more distorted is the creation margin.

In short, the more firms are made to pay for the expected cost of unemployment benefits, the smaller the distortion will be at the destruction margin, but the larger the distortion will be at the creation margin.²³ Because of these distortions, there is now a trade off between insurance and efficiency. Even if it were feasible (if there was no problem in monitoring the search behavior of the unemployed), it will no longer be optimal to provide full insurance to laid off workers. And the *optimal contribution rate will be less than one*. It will be closer to one,

- The higher the scope for bonding, and so, the smaller the adverse effect on layoff taxes on creation.

22. There is a set of taxes and transfers which can achieve both efficient destruction and efficient creation. A contribution rate of one, so there is no distortion at the destruction margin. A subsidy to new jobs to eliminate the adverse effects of the increase in cost on job creation (see for example [Mortensen and Pissarides2001]) But this raises in turn the issue of how these job subsidies themselves are financed (they may have to be very large). So our discussion here is predicated on the absence of, or at least on limits on, job subsidies.

23. This is why the line of argument used in the context of experience rating to argue that the contribution rate should be equal to one is misleading. Such a rate removes distortions at the destruction margin, but can have a large adverse effect on creation.

- The lower the bargaining power of workers, or the higher the commitment ability of firms.
- The more elastic job destruction to the layoff tax.
- The more inelastic job creation.²⁴

5.2 Heterogeneity of firms and workers

Not all firms and all workers are alike. Some firms operate in more volatile goods markets, and so are more likely to have a high layoff rate. Some workers, because of their characteristics, are more uncertain and more likely to be laid off. If laid off, some workers are likely to find a job more easily than others. What does a positive contribution rate imply for their respective fortunes?

To think about this question, first go back to our benchmark case, in which wages are set at the time of hiring.

- In that benchmark, firms must offer the same level of utility to a given worker, otherwise the worker will not accept the job offer. Thus, firms that face more volatile demand, and thus higher layoff rates will have to make higher overall unemployment contributions and will not be able to pass those costs on to workers through lower wages. They will therefore have higher costs. This is indeed as should be, given that they impose larger social costs.
- In that benchmark, if workers are substitutes in production, a worker with higher expected unemployment duration if laid off will be hired by a firm only if the total cost he imposes on the firm is the same as that for other workers. Thus, workers with worse labor market

24. A case often analyzed in the research on labor market equilibrium is the case of zero bonding and a fully elastic supply of capital (see, for example, [Pissarides2000]). In that case, a strong—and depressing—result emerges. The “pain of unemployment”, more specifically the difference in the value of being employed over the value of being unemployed, remains constant: What the unemployed gain relative to the employed through, for example, higher unemployment benefits when unemployed, they must lose in equilibrium through higher unemployment duration. (Otherwise, wages would be too high, profits too low, and firms would not create jobs). The result is extreme, but an important warning nevertheless that general equilibrium effects can lead to effects quite different for those intended by the policy maker.

prospects, will have to accept lower wages. At those lower wages, firms will be willing to employ them.

Now turn to the case where, instead of being set ex-ante, wages are set ex-post through bargaining, and the contribution rate is positive. Then:

- Then, as wages are now likely to increase rather than decrease in response to a positive contribution rate, all firms will face higher costs. But, to a first approximation, the increase in the wage will be the same across firms, so the increase in costs (relative to the benchmark) is the same at all firms. There is therefore no obvious reason why the contribution rate should thus be modulated across firms, for example, why it should be smaller for firms with high turnover rate.
- An issue arises however with respect to firms operating in isolated labor markets. Take for example the case of a firm operating in a depressed region. If the firm is the only one around, and closes its plant, it may be very difficult for workers to find other jobs. The layoffs will have high social costs. This suggests imposing larger contributions on the firm that is laying off. But, with such large contributions, which firm will ever want to open another plant in that labor market? To the extent that the state wants to maintain employment in the region, the solution is not to modulate the contribution rate, but rather to use job creation subsidies.
- The situation is now different for workers. Workers who are perceived by firms to be more risky, in the sense of either a higher probability that the worker will have to be laid off, or a higher expected unemployment duration if he becomes unemployed, will cost more to firms. Once they have been hired, they will be able to renegotiate the wage, and thus increase firm's costs. The increase in costs will be larger, the higher the probability that the worker may be laid off, or the longer his or her expected unemployment duration. Knowing this however, firms will not want to hire these workers in the first place.

Thus, a positive contribution rate (in general any employment pro-

tection) will lead to increased discrimination by firms in the labor market. Workers with a short labor market history, workers with poor skills, older workers may have a hard time finding jobs.

What should the state then do?

To reduce the problem of different ex-ante probabilities of layoffs for different workers, a natural, if partial, solution is to give time to both parties before the usual rules of employment protection and unemployment insurance apply. This may take two, not mutually exclusive, forms:

- A trial period, during which any of the two parties can separate at no cost. This period must be long enough to allow the firm to learn about the worker, but short enough to make it unattractive for firms to fill jobs through rotations of trial period workers.
- A transition period during which, in case of separation, both the payments by the firm to the agency, and the unemployment benefits received by the laid off worker are less than under standard rules, and increase with seniority.

To the extent that this may is not enough, one may think of other types of solutions, for example:

- Targeted hiring subsidies, but this is likely to add yet another layer of complexity and arbitrariness in the employment protection system. The French experience is not particularly encouraging in this respect.
- Or/and a contribution rate by firms which depends on the *number of layoffs*, rather on than the expected or actual total unemployment benefits paid by the agency to the workers laid off by the firm. This second solution does not eliminate the problem raised by different ex-ante probabilities of layoffs for different workers, but it eliminates the problem raised by different ex-ante unemployment durations for different workers.

6 Quits and layoffs

We have focused so far on adverse shocks to productivity, shocks which lead the firm to lay a worker off even if the worker does not have another job opportunity. The reason was that these are obviously the shocks where unemployment insurance and employment protection may have a role to play. But these are not the only shocks triggering separations. Workers leave for other reasons, often because they have a more attractive job opportunity elsewhere. In France today, leaving aside the separations that take place at the end of fixed duration contracts (CDD), layoffs account only for about one third of separations, quits for the remaining two thirds ([Goux and Maurin2000]).

The presence of both layoffs and quits introduces a number of issues in the design of employment protection, and these are the issues we discuss in this section.

6.1 Introducing quits and layoffs

Go back to our benchmark model. Assume now that there are two shocks that take place after a worker has been hired. First, as before, productivity is realized. Second (and simultaneously), with positive probability, the worker receives an outside job offer. Suppose, for simplicity, that if the outside job offer comes, it dominates any offer the firm can make to the worker.

There are now two reasons why there may a separation. Productivity may be low, and the worker becomes unemployed. Let's call this a layoff; it is initiated by the firm. Or, the worker may receive an outside job offer, in which case he will leave. Let's call this a quit.

If the level of productivity, and the existence of a job offer, are both observable, and if required, verifiable in court, the conclusions we reached earlier extend straightforwardly to this case. If a separation comes from low productivity, and is therefore a layoff, firms make contributions to the state, and pay severance payments to the worker. If a separation comes from an outside job offer and is therefore a quit, it triggers neither severance pay-

ments, nor unemployment contributions by the firm, nor unemployment benefits to the worker.

The problems arise when the reason behind the separation is unobservable, or not verifiable, or worse, manipulable by firms or by workers. This generates two types of potential games, first between firms/workers and the state, second between firms and workers themselves.

6.2 Games between the firms/workers and the state.

Focus first on the payments from the firm to the state to finance unemployment benefits. And assume, for reasons we discussed in the previous section, that firms support only a proportion of these costs: the contribution rate is less than one. This opens the possibility that, for the firm and the worker taken together, each layoff may be associated with a net subsidy from the state (the firm pays less to the state than the payment of the state to the laid off worker). Thus, to the extent that firms and workers collude, they may have an incentive to call every separation a layoff.

Is this likely to be a serious issue in practice? Probably not: The parties may have neither the ability nor the incentive to collude:

- It may not be easy for the firm and the worker to collude. Collusion implies a payment from the worker to the firm, so as to offset the payment from the firm to the state. To the extent that the payment comes from future unemployment benefits or future wages received by the worker, the ability of the firm to make sure that such payments actually take place may be limited.
- The exact nature of contributions by firms to the agency matters here. If contributions by firms depend on actual unemployment benefits paid to the workers who were laid off, then indeed firms and workers together benefit from calling a quit a layoff. Suppose instead that contributions depend (for the reasons discussed at the end of the previous section) only on the number of layoffs, or, equivalently, on the number of layoffs times the average duration of unemployment benefits. In this case, it is much less obvious that the firm and

the worker together will benefit from declaring a quit to be a layoff: Workers who quit are likely to have a shorter unemployment duration than average, and thus receive smaller unemployment benefits, than average. In particular, many of the quits are directly to another job, in which case the worker receives no unemployment benefits at all. In that case, there is no gain to the worker, and a loss to the firm in declaring it a layoff. There is no incentive for them to call the quit a layoff.

6.3 Games between workers and the firm

Assume now that the contribution rate is one, so that we can ignore the previous game between firms/workers and the state. There is another game we have to consider: Other things equal, firms would rather have a separation be called a quit and save on severance payments and unemployment contributions. Symmetrically, workers would rather have a separation be called a layoff, and receive both severance payments and unemployment benefits.

If the worker could not affect the productivity of the match, and the firm could not affect the relative attractiveness of the outside option of the worker, then there would still be no problem.²⁵ Firms with a low productivity shock could not force the worker to quit. Workers with an outside job offer could not force the firm to lay them off. But, in fact, workers can affect the productivity of a match, and firms can affect the relative attractiveness of the outside option of the worker:

A worker who wants to quit but also wants to receive severance payments and unemployment benefits, can shirk and decrease the productivity of the match, leaving no choice to the firm than to lay him off. A firm that wants to lay a worker off but would rather have him quit so as to save on severance payments and unemployment contributions, can harass the worker

25. This statement may be too strong, as there might still be some room for gaming. If for example, the worker receives an outside offer and the firm simultaneously receives a bad productivity shock, both have an incentive to having the other side take the decision to separate.

into quitting. The stronger the stakes, that is the higher the contribution rate and the higher the unemployment benefits or the severance payments, the higher the incentives to harass or to shirk.²⁶

As in the game between firms/workers and the state we discussed earlier, there is a relevant difference between severance payments and unemployment benefits. If a worker has an outside job offer, it makes sense to shirk, so as to be laid off, and receive severance pay. But, if the worker intends to take the other job right away, shirking so as to be laid off and receiving unemployment benefits is of no value to that worker: he will not be unemployed.

This has two implications: Unemployment benefits are, in that respect, less likely to lead to gaming, than severance payments. Shirking by workers may be less of an issue than harassment by firms.

Until now, in our argument, there was no reason to have courts involved in the process of separation (except for the usual reasons: Making sure that existing rules—payment of severance, advance notice, no discrimination on the basis of sex, age, physical appearance, no layoff because of union activity, and so on—that are in place are not violated.) But the issues we just discussed now create such a role. Let's turn to this.

6.4 The role of courts

Under the logic of our arguments, what courts have to do is conceptually clear (if not necessarily easy to do in practice):

- If a separation has been reported as a layoff, look, if requested by the firm, at evidence of shirking by the worker. (This can take different forms, with different ways of allocating the burden of proof. A firm that does not want to pay severance payments to a worker and the payment to the state, may state that the separation is the result of

26. [Anderson and Meyer1998] show that the 1985 increase in the contribution rate in the state of Washington led to a substantial increase in the number of denial of benefit cases brought up by firms.

misbehavior by the worker, and, if challenged by the worker, has to prove it in court).

- If a separation has been reported as a quit, look, if requested by workers, at evidence of harassment by the firm.

An important remark at this point, to which we shall return after having described the role of courts in the current French employment protection system: The role of courts described above is very different from their role in France today. In particular, in our framework, if a firm is willing to call a separation a layoff and make the associated payments to the state and to the worker, there is no justification for the court to second guess the decision of the firm, no justification for the court to intervene at all. This is not the case today.

7 The contours of optimal employment protection

The purpose of this section is simply to summarize the main conclusions reached in the previous five sections.

- Employment protection is a natural counterpart to unemployment insurance.

A full discussion of unemployment insurance falls outside the scope of this chapter. Nevertheless, let us make a few remarks here.

Individual self insurance is not sufficient to insure workers against the risk of job loss and unemployment. Perhaps more could and should be done here (for example along the lines of the unemployment accounts proposal presented in [Feldstein and Altman1998]; see also [Kugler2002], for an analysis of severance payment savings accounts in Colombia). In any case, we take as given in this chapter that such private accounts cannot simply replace traditional unemployment systems.

This implies the need for an agency to administer unemployment insurance. This agency can be either a public agency, or a public-private partnership: Only the state has the required administrative

infrastructure, to follow the unemployed, to distribute benefits, and to collect contributions for firms.

A public agency may however not have all the right incentives. We see this in some of the problems emerging in the implementation of the PARE in France. The PARE represents an attempt to provide more generous (in time) unemployment benefits, in exchange for stronger incentives for the unemployed to accept jobs if such jobs are available. Agency employees do not however have strong incentives to force the unemployed to take jobs, and the preliminary evidence suggests an increase in benefits has not come with much stronger inducements for the unemployed to take jobs. A public-private agency would have stronger incentives to place the unemployed into jobs.²⁷

- The general principle should be that firms make payments to the unemployment agency equal to the expected or actual unemployment benefits paid to the laid off workers. In other words, the *contribution rate* of firms, defined as the ratio of contributions paid by the firm to the (expected or actual) unemployment benefits paid to the worker, should be equal to one. Such a rate leads firms to fully internalize the social cost of layoffs and take an appropriate layoff decision.
- The principle is important. But a number of other imperfections in the labor and other markets require however a number of qualifications:

To the extent that unemployment insurance is necessarily incomplete (for example to maintain incentives to search), it is then optimal to choose a contribution rate larger than one, therefore decreasing layoffs below the efficient level, but in doing so, providing more insurance to workers.

To the extent that firms have liquidity problems, a high contribution rate and the payment of unemployment contributions may create serious problems for firms already in financial trouble. In this case, it is better to separate the timing of unemployment contributions

27. For a similar discussion in a different context (Who should run prisons?), see [Hart et al.1997].

by firms and the payment of unemployment benefits, according for example to a bonus malus or an experience rated system. It may also be optimal to choose a contribution rate less than one, so as to decrease the burden on firms in financial trouble, again at some cost in efficiency.

To the extent that wages do not fully reflect the provision of insurance, a contribution rate equal to one will avoid distortions at the destruction margin, but it will also increase labor costs, decrease profits, and thus create distortions at the creation margin. In this case, it is again optimal to balance the two distortions by choosing a contribution rate less than one.

On net, given our state of knowledge—theoretical and empirical—no one can state with much confidence what the optimal contribution rate should be. Our guess, but it is hardly more than a guess, is that the last two factors dominate the first, and the contribution rate should be positive, but somewhat below one.

- A related question is whether the contribution rate should be modulated across firms or across sectors.

Some sectors and some firms have a much higher turnover than others. This turnover will decrease as the contribution rate is increased. But it is likely that some sectors will continue to have higher turnover and thus higher layoff tax costs. This is however as it should be: These sectors impose higher costs on society, and this should be reflected in higher costs for firms in those sectors.

The contribution rate may however have to be modulated across workers. Some workers are more uncertain and thus more likely to be laid off than others; some workers have higher expected unemployment duration than others; this may be because of age, of skill, or other characteristics. If these workers accepted sufficiently lower wages, firms would be willing to hire them. But, in the presence of wage floors, or ex post wage setting, wages are unlikely to adjust enough and these workers are likely to cost more to employ. This

in turn will lead firms to discriminate against workers who are, or are perceived as, more likely to be laid off, or more likely to remain unemployed for a long time.

A partial solution is to have a trial period during which separation can happen at no cost to either party, or/and a transition period during which unemployment benefits and employment contributions are lower than under standard rules, and increase with seniority.

Other partial solutions include targeted hiring subsidies (but experience suggests that there are many pitfalls with such targeted subsidies), and unemployment contributions by firms that depend not on actual or expected unemployment benefits paid to laid off workers, but on the number of layoffs. In this case, firms have no incentives to discriminate against workers with longer expected duration of unemployment.

- In case of bankruptcy, unpaid outstanding layoff tax balances should be counted as a liability of the firm, and the state should be a senior creditor.

As the experience with environmental liabilities has shown, this may not be enough: Firms may systematically reorganize and spin off risky units so as to leave empty shells in the event of bankruptcy. In this case, it may be desirable to have the outstanding liabilities to the unemployment agency be backed by collateral or by bank guarantees. This will transfer the monitoring of the balance sheet of firms to banks or other creditors.

- The previous points have concentrated on contributions by firms to the state. But there is also a potential role for severance payments, payments made directly to workers.

Their role should not be to help workers finance unemployment. This is better done through unemployment benefits. Their role should be to compensate, at least in part, for the costs of becoming (as opposed to being) unemployed. These payments should be a (non linear) function of seniority, with low payments until high seniority has been achieved.

Thus, on the financial side, employment protection could take two

forms: Unemployment contributions to the state; while these are not directly visible to workers, they protect employment in the sense of making layoffs more expensive for firms. And severance payments directly to workers.

- The role of the judicial system should then be, in addition to making sure that administrative steps are followed, to assess whether declared layoffs are indeed layoffs, and declared quits are quits.

To avoid having paying unemployment contributions and severance payments, firms may harass workers into quitting. In order to qualify for unemployment benefits and receive severance payments, workers may shirk so as to be laid off.

The role of the judicial system should then be twofold. If asked by workers, to look for evidence of harassment of workers if a separation has been called a quit. If asked by firms, to look for evidence of shirking by workers if the separation has been called a layoff.

The role of the judicial system should not however be to second guess the layoff decisions of firms. If a firm is willing to call a separation a layoff, follow the relevant administrative steps, and pay the associated financial costs, this decision should not be subject to judicial challenge (except on usual grounds such as discrimination based on race or sex.)

8 The French employment protection system

Our purpose here is not to give an exhaustive presentation of the French employment protection system but rather to present it in such a way as to facilitate the comparison with the conclusions of the previous section.²⁸

Much of the evolution of employment protection has been organic, the result of jurisprudential decisions, codified once in a while by new laws. While the

28. Three useful sources on French institutions are [Pélissier et al.2002] (which presents the legal structure), [CFDT2003] (which gives a user guide for workers) and [JurisClasseur Groupe Lexis-Nexis2002], which gives the text and interpretation of the 2002 law, called “Loi de Modernisation Sociale”.

Napoleonic code was based on the notion of “employment at will”, the law has evolved towards the notion of “social responsibility” of firms (what this means, we shall argue below, is far from clear).

This evolution has been a slow, steady, one. It accelerated, in the direction of stronger employment protection, in the 1970s and early 1980s, probably in response to the steady increase in unemployment during the period. In 1973 for example, the burden of the proof that a layoff is justified was shifted to the firm. In 1975, the state introduced the requirement of prior administrative approval for layoffs; this requirement was eliminated in 1986. Except for the extension of the scope for fixed duration contracts, not much has happened since to employment protection for regular contracts. Indeed, and here France is an outlier in Europe, the most recent law, the “Loi de Modernisation Sociale” passed in 2002, has reinforced employment protection for regular contracts.

8.1 The need for motive

The general principle today is the need for motive: The firm must have and show “real and serious cause”. Only if such a cause exists can the firm layoff a worker.

The law distinguishes between two types of layoffs:

- “Personal” (that is related to the behavior of the employee.) The firm must show that the layoff is the result of a “serious misdemeanor” (*faute serieuse*).
What “serious” means is not clearly defined (one definition, found in the reference labor law text ([Pélissier et al.2002]), is: “serious: sufficient to justify the layoff”...) It does not require malicious intent, but it must be more than a “light misdemeanor” (*faute légère*), which does not justify a layoff.
- “Economic” (that is related to the situation of the firm). The firm must show that the layoff (or layoffs) are the result of “real transformation or elimination of job(s)”.

What this exactly means is even more unclear. The ambiguity, and

why this is an issue, is best shown in the recent case of layoffs at Michelin–Wolber. In July 1999, Michelin decided to layoff 451 workers at its Wolber plant, at the same time as it was announcing large benefits for the group as a whole. In February 2002, the labor tribunal concluded that the layoffs were not justified, and asked Michelin to pay a total of 10 million Euros to the 162 laid off employees who had contested the decision, or about 60,000 euros per employee. The tribunal argued that “layoffs for economic reasons cannot be justified on the basis of improving the competitiveness or the profits of the firm, but only on the basis of maintaining its competitiveness. In the case of Michelin, the purpose was to improve competitiveness, and thus the layoffs were not justified”. (The decision is being appealed).

A charitable interpretation of the court’s opinion is that the firm should exercise more restraint with regards to layoffs when it is not liquidity constrained (such a conditioning would make economic sense). We doubt, though, that the courts have the ability and the information to make such business judgments.

Lest one think that this is an isolated case, very much the same thinking was embodied in the 2002 law, which stated that, only when other avenues had been exhausted, were layoffs justified. Two of the provisions of the law were subsequently thrown out by the French Supreme Court (the Conseil Constitutionnel) on the grounds that the law had moved from the principle that layoffs were justified if they were required to maintain competitiveness to the principle that layoffs were justified if they were required to ensure the survival of the firm—a much more stringent criterion.

In short, the principles that the courts must use in assessing whether layoffs are justified are extremely unclear. The fact that the firm decided that such layoffs were necessary is clearly not by itself sufficient proof for the courts.

8.2 Limited financial costs

If layoffs are not contested, or are found by the court to be justified, the direct financial costs to firms are relatively limited:

- Contributions by firms to unemployment benefits are collected through payroll taxes. The rate is independent of the history of layoffs by the firm—in other words, the contribution rate is zero. One exception is the “contribution Delalande”, introduced in 1987, and mandating additional payments to the unemployment agency in case of layoffs of older workers. For large firms (50 employees or more), the contribution is equal to two months for a 50 year old, increasing to 12 months for a 56 year old, and decreasing back to 6 months for a 59 year old or older. (the number of months is halved for firms with less than 50 employees).
- The severance payments mandated by the law are relatively low, and non linear in seniority: 2/10 months per year of seniority, plus, for workers with more than 10 years, 2/15 months per year above 10 years. This gives 2 months for a worker with 10 years seniority, 8.3 months for a worker with 30 years seniority. Some other obligations of firms, such as the obligation for large firms to pay a “congé reclassement”, described below, are however equivalent to severance payments (plus a training component). And severance payments set by sectoral agreements (‘conventions collectives’) are often higher than those set in the law. Estimates by [Abowd and Kramarz1997] for 1992 give a marginal cost of a layoff to a firm of 5 to 7 months of average labor costs per worker.

8.3 A long procedure

Firms that decide to lay workers off for personal or economic reasons must follow an often long series of administrative steps. These steps have two separate purposes.

- The first is to give time to the workers to prepare themselves for the layoff and to facilitate their reemployment. Depending on seniority,

workers get an advance notice of up to three months. Workers in large firms (1000 employees or more) are entitled to a retraining period (“congé reclassement”) of 4 to 9 months. For the part of the period that coincides with the advance notice period, workers get 100% of their salary; for the rest of the period, they get 65% of their salary, paid by the firm. Under the new unemployment insurance system, workers in smaller firms are eligible for training and help in finding jobs from the start of their advance notice (the “PARE anticipé”), not the moment they become unemployed.

- The other purpose is, officially, to make sure that alternatives to the layoffs have been fully explored. The steps (which must take place before workers are notified of the layoff) grow more numerous with the size of the firm, and the size of the layoffs. For layoffs for personal reasons, the steps are typically minimal—an interview and the sending of an official letter. For layoffs for economic reasons, and for firms with more than 100 workers, the process can take up to half a year. The steps involve a number of meetings with the representatives of the workers, the presentation by the firm of a detailed “plan to save jobs” (“plan de sauvegarde de l’emploi”), the approval of the labor inspection office; they may also involve the nomination of an auditor if requested by worker representatives, and the recourse to an arbitrator if the workers’ representatives disagree with the firm’s plan.

At the end of this process, the firm can start the advance notice period, and then proceed with the layoffs. But the workers, if they disagree, can go to court. Different courts have different jurisdictions. In case of collective layoffs, workers or firms go to regular tribunals, either “Tribunaux d’instance” or “Tribunaux de grande instance”. For individual layoffs, and most labor contract disputes, the standard court is the a labor tribunal known as the “Prud’hommes”, an institution created in 1806. Each such tribunal has two elected union representatives and two elected representatives from business organizations. In case of a tie, the decisive vote is cast by a professional judge.

When a case is taken to the Prud'hommes, the first step is an attempt at arbitration ("audience de conciliation"). The second is a judgment (audience de jugement), which can decide that layoffs were not justified, and impose fines and payments to the firm. (98% of the cases are brought by workers, only 2% by firms; 80% of the cases are decided in favor of workers). The judgment can then be appealed, going first to the appeals court ("Cour d'appel"), then possibly to the highest court ("Cour de cassation"); 50% of the cases are appealed, 70% are decided in favor of workers.

The number of cases taken by the Prud'hommes has increased rapidly in the recent past, reaching close to 200,000 new cases (half of those related to layoffs) per year at the end of the 1990s. Both at regular tribunals, and at the Prud'hommes, the delays in reaching a decision can be substantial (the mean time to the first judgment at Prud'hommes is now around 10 months. The Michelin case, now on appeal, is now more than 3 years old).

If layoffs are found not to be justified, the firm has to pay additional severance payments. These payments can be substantial. If for example the firm has more than 11 employees, and the worker has more than two years seniority, severance payments must be at least equal to six months.

8.4 The sharp distinction between CDD versus CDI.

Since the late 1970s, successive governments have introduced fixed-term contracts, called "contrats à durée déterminée", or CDDs. These contracts still require a severance payment, but eliminate the recourse to courts when termination takes place at the end of the contract.²⁹

A brief history of CDDs goes as follows: CDDs were introduced in 1979. With the election of a socialist government in 1981 and the passage of another law in 1982, their scope was reduced: A list of 12 conditions was drawn, and only under those conditions could firms use fixed-term contracts. In 1986, the 12 conditions were replaced by a general rule: CDDs should not be used to fill a permanent position in the firm. The current architecture dates for the most part to an agreement signed in March 1990.

29. [Poulain1994] gives a detailed description of the rules governing CDDs.

Under this agreement, CDDs can be offered by firms for only one of four reasons: (1) The replacement of an employee on leave (2) Temporary increases in activity (3) Seasonal activities (4) Special contracts, aimed at facilitating employment for targeted groups, from the young to the long term unemployed. The list of special contracts has grown in the 1990s, as each government has tried to improve labor market outcomes for one group or another; some of these contracts require the firm to provide training, and many come with subsidies to firms.

CDDs are subject to a very short trial period, typically one month. They have a fixed duration, from 6 to 18 months depending on the specific contract type. Mean duration is roughly one year. They typically cannot be renewed, and, in any case, cannot be renewed beyond 24 months. If the worker is kept, he or she must then be hired on a regular contract (CDI). If the worker is not kept, he or she receives a severance payment equal to 10% of the total salary received during the life of the contract. (Note that this is a much higher percentage of salary than is the case for severance on regular contracts. But workers on CDDs cannot go to the Prud'hommes to contest the end of employment on the CDD.)

As we indicated earlier, these CDD have been very popular with firms, and represent now 70% of the flow of hires, and a bit above 10% of total employment.

9 Contours of employment protection reform in France

When we compare the existing French system of employment protection to the structure that emerges from our analysis, we believe that there is a strong case for reform along two main lines:

- An increase in the marginal financial cost of layoffs for firms.
- A decrease in the role of courts in case of layoffs, leading to a less costly and less uncertain process for firms.

Or in more detail:

- An increase in the contribution rate of firms to the financing of unemployment insurance.

Firms at this stage finance a large part of the unemployment insurance system; but they do so through a fixed rate payroll tax, so the marginal contribution rate (through that tax) is equal to zero. Our analysis suggests the following conclusions:

This contribution rate should be positive, although probably less than one.

Starting from the current legislation, this implies a reduction in the payroll tax (on employers and employees), and the introduction of unemployment contributions by firms related to their layoff behavior. The contributions need not be made at the time of layoffs. Some form of experience rating (for example along the lines of the reserve ratio system described in Section 3) may be appropriate.

To avoid discrimination by firms against workers with different labor market prospects, the system should include both a trial period and a transition period during which contributions and benefits are less than and converge to the standard regime. Other measures may include basing the contributions by firms on the number of layoffs, rather than on expected or actual unemployment benefits.

- While shifting to a positive contribution rate will lead firms to reduce layoffs, this increase in employment protection (with payments from firms to the unemployment agency, rather than directly to workers) will be less visible to workers than some of the other forms of employment protection. But it is nevertheless an increase in employment protection: It leads firms to take into account the social costs of unemployment, and decrease their layoff rate.
- Is there a role left for severance payments, direct payments to workers? We think so, but their role should be only to offset the costs of job loss (as separate from unemployment). This should be their only and limited purpose; unemployment insurance is better provided through unemployment benefits.

Given that the costs of job loss appear to be increasing and convex in seniority, this suggests the use of a schedule which is increasing

and convex in seniority, with low payments until high seniority is achieved. We do not have a view as to whether the schedule currently in place has the right level and curvature. As noted earlier in the discussion of the Delalande contribution, there are constraints on how steep the schedule can be at high seniority. If it is too steep, it runs the risk of generating discrimination against middle age workers.

- In case of bankruptcy, firms should be liable for contributions and severance payments due to their workers, and the state should be a senior creditor.

As we know however from recent cases, firms have an incentive to escape those liabilities by designing complex structures of ownership so as to benefit from limited liability. The problem will only grow more serious, if, as we argue should happen, contribution rates are increased. The problem is an old one and has given rise to an intense debate in the area of environmental liability on how to reach solvent principals. Something can be learned from this debate both about the difficulties involved in assigning liability and about the techniques that can achieve this.

If liability tracing cannot be achieved without creating large administrative costs or creating perverse incentives for the private sector, a simple alternative could be the deposit of some form of collateral: firm's assets (but state agencies have little expertise in assessing the value of this collateral and in monitoring that it is maintained adequately), bank guarantees, or financial assets (interest, dividends, and possibly the principal would be adjusted over time so as to maintain the value per worker).

- Advance notice periods combined with retraining, and other measures designed to help laid off workers find another job (such as the congé reclassement, the PARE anticipé, and the PAP—an individualized “action plan” for training and job search), are highly desirable and justify delays between the layoff decision and its implementation.

- The heavy hand of the judicial process, as it now exists, seems however largely unjustified.

We do not see why an arbitrator, the Prud'hommes or the other tribunals, the appeals court, and the Cour de cassation, should be asked to second guess the decision of the firm, if the firm goes through the proper administrative steps and is willing to pay both contributions to the state and severance payments to its workers.

- The role of the tribunals should therefore be much more limited than it is today. In particular, if a firm is willing to declare a separation a layoff and to pay the associated costs and severance payments, either the Prud'hommes or the Tribunaux d'instance should not second guess the firm's decision, and should not intervene. In the case of collective layoffs for example, the role of the courts should be to check that proper administrative steps have been taken, contributions and severance paid, not to assess whether the firm was justified in laying the workers off.

- The sharp contrast between the CDI and CDD regimes that exists today should be eliminated.

At the short end of the seniority scale, there is however an important role for a trial period at the start of a contract, and termination during that period should not trigger either the payment of unemployment contributions or severance. The period should be long enough to allow both sides to learn about the match, but short enough to make it unprofitable for firms to use the trial period to rotate workers into a given job.

At the long end of the seniority scale, we have argued that severance payments should be non linear in seniority, so that it is more expensive for the firm to layoff workers with high seniority. (The non linearity should however come in at much higher seniority levels than the one-year or two-year duration of fixed term contracts).

The elimination of this two-contract regime should reduce the dual nature of the labor market, which we see as a major and perverse effect of recent reforms.

- The increase in the financial marginal cost of laying off a worker,

compensated by a decrease in the complexity and the uncertainty of the layoff process, might well be more attractive both to firms and to workers. The example of CDDs, which combine a higher severance pay than CDIs, with a much simpler process of termination, suggests that firms would be eager to accept such a trade off. But we believe that this need not come with a decrease in the welfare of workers, both those on CDDs, and those on CDIs. Given its goals, the current system is inefficient. Efficiency gains can make both sides better off.

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