The Economics of the Single Contract

When do we need Compensation for Unfair Dismissal increasing with Tenure

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Unexplored Dimensions of EPL

EPL is perhaps the most widely investigated institution in the LM.
Many features of EPL have not been taken into account.

1. Severance payments and worker's tenure. Large cross-country variation in the tenure profile of severance. Why? Does it Matter?

2. In all countries compensation to workers distinguish between *disciplinary* and *economic* dismissals. Why is important?

3. Most countries distinguish also between compensation for *fair* or *unfair* dismissal

4. Most countries allow for reductions of severance for small firms. Why?

Severance Payments, Disciplinary and Economic Dismissals

- Severance Payments (SP) are mandatory **transfers** for firm initiated job separation.
- **Disciplinary dismissals** are related to worker misconduct.
- **Economic dismissals** refer to technological or firms' productivity related issues.
- Each type of dismissal can be defined as *fair* or *unfair* with different compensation schemes
- It is very difficult to distinguish between "fair" or "unfair" dismissal. Ultimately, it is a court ruling

Compensation in fair/unfair dismissals

Table: Compensation in different cases of dismissal

Country	Economic Unfair maximum compensation	Economic Fair compensation at 20 years of tenure	Disciplinary Unfair maximum compensation	Disciplinary Fair compensation at 20 years of tenure	S Index
Australia	26.0	8.0	26.0	0.0	8.16
Austria	26.0	0.0	26.0	0.0	10.19
Belgium	65.0	0.0	65.0	0.0	16.12
Canada	–	20.0	–	8.0	–
Denmark	39.0	13.0	39.0	13.0	7.21
France	69.3	23.1	69.3	0.0	13.10
Germany	77.9	43.3	77.9	0.0	12.09
Greece	166.7	34.7	166.7	21.7	19.87
Hungary	43.3	21.7	43.3	21.7	5.37
Ireland	104.0	9.8	104.0	8.0	17.90
Italy	203.5	0.0	203.5	0.0	28.53
Japan	146.4	0.0	146.4	0.0	24.20
Netherlands	30.3	0.0	30.3	0.0	11.01
Spain	129.9	52.0	129.9	0.0	17.16
United Kingdom	34.6	10.6	34.6	0.0	9.44
United States	0.0	0.0	0.0	0.0	0.00

Severance is measured in weeks of payments.

Index of Dispersion

$$S = \frac{\sqrt{(C_U^E - C_F^E)^2 + (C_U^D - C_F^D)^2}}{\bar{C}}$$

Where

- C refers to weeks of statutory compensation
- subscripts U and F to the unfair or fair nature of the dismissal
- superscript E and D to the economic or disciplinary nature of the dismissal
- $\bar{C}$ is the average of the 4 costs

Severance Payments and Tenure

- Mandatory Severance Payments (SP) vary with tenure.
- We calculate the elasticity of SP to tenure at different periods
- The elasticity of SP to tenure varies across countries.

Severance Payments and Tenure
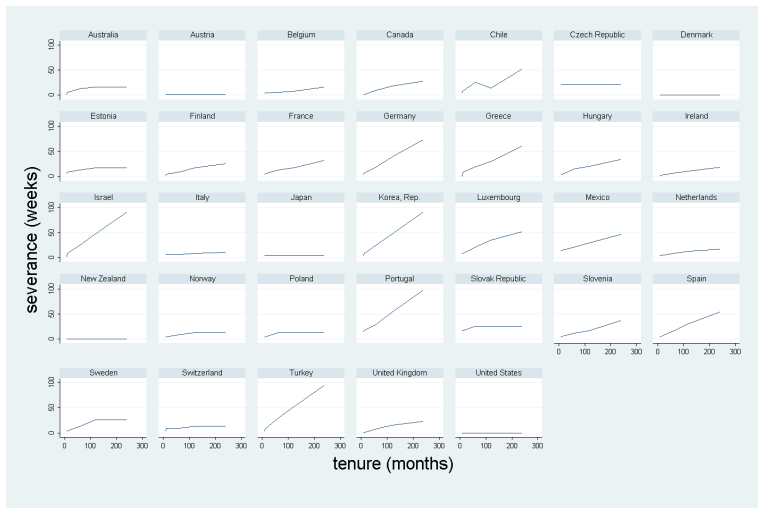
GR Index and Severance

Table: GR Index, 2005; minimum and maximum severance, in months

Country	average elasticity	minimum value		maximum value	
		elasticity	period	elasticity	period
Germany	0.19	0.02	1y	0.47	20y
United Kingdom	0.17	0.00	1y	0.32	20y
Portugal	0.16	0.01	1y	0.44	20y
France	0.16	0.01	1y	0.45	20y
Netherlands	0.12	0.00	1y	0.25	10y
Italy	0.07	0.00	1y, 5y, 10y	0.20	20y
Austria	0.01	0.00	9m	0.04	9m
Japan	0.01	0.00	1y, 5y, 10y	0.04	9m
Denmark	0.00	0.00	–	0.00	–
United States	0.00	0.00	–	0.00	–

Source: OECD (2012), World Bank Data (2012).

Severance and wages elasticities

correlation coefficient = 0.7636 ***
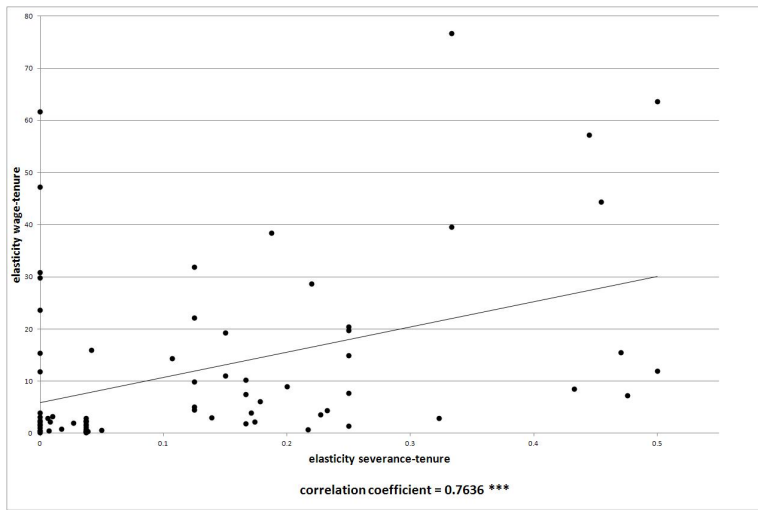
Exemptions for Small Firms

Most countries allow for lower severance for small firms in case of unfair dismissals.

- Italy: art.18 does not apply in firms with less than 15 employees.
- Germany: reinstatement in case of unfair dismissal cannot be imposed by the judge in firms with less than 5 employees
- Australia: no redundancy has to be paid by enterprises with fewer than 15 employees
- Luxembourg: firms with less than 15 employees can choose additional notice in lieu of severance payments

The Economics

- Whenever there are wage deferrals and productivity shocks, firms initiated dimissals for senior workers may be inefficient
- Workers undertake a costly (private) investment with uncertain return to the firm
- Distinction between disciplinary and economic very relevant
- **Economic Dismissal**: firms will always fire when productivity is too low, even when the worker invests. Firms can not commit "not to fire".
- **Disciplinary Dismissal**: shirking workers (those who do not invest) can be dismissed without severance payments (fair economic dismissal).
- Moral Hazard: A fair disciplinary dismissal must be proved in court and a shirking worker "can get away with it".

Baseline Results

- When there are wage deferrals, severance payments can indeed prevent inefficient firing for senior workers

- In the baseline model with moral hazard in disciplinary dismissals, firing is ex-post too high vis-a-vis efficient separations

- Severance Payments are not neutral, can reduce firing and induce workers investment.

Results on Contratto Unico

- Extension to 3 periods:
  - If workers need to repeatedly invest on the job
  - Severance payments increasing over time are efficient

- Policy proposal for Contratto Unico (SP increasing with tenure to reduce dualism) should be taken seriously!

- Extension to endogenous probability that a shirker can "'get away with it"' receiving severance or even being retained

This Paper

1. Introduction and Empirical Motivation
2. Wage Deferrals, Severance and Tenure
3. Basic Two periods Model on Efficient SP
4. Multi periods and Contratto Unico
5. Endogenous "'get away with it"' probability
6. Policy Implications

Some References

- Neutrality of Severance Payments (Lazear, 1990)
- Stochastic Firing (Garibaldi 1998). Severance and wages in search (Garibaldi Violante 2005)
- Optimal Severance Payments in search economies with risk aversion (Veracierto, 2008)
- Severance Payments and Moral Hazard in a Model of Unemployment (Guell, 2002)

- Assume $w_2 > y_2^l > b$

Firms can fire conditional on the realization of y_2^l. Firing requires a severance payment $T \geq 0$

$$\Pi = y_1 - w_1 + (1 - \delta)[y_2^y - w_2] + \delta Max[y_2^l - w_2 : -T]$$

Since $y_2^l > b$ the joint surplus is positive in the second period and- for efficiency reasons- production should take place

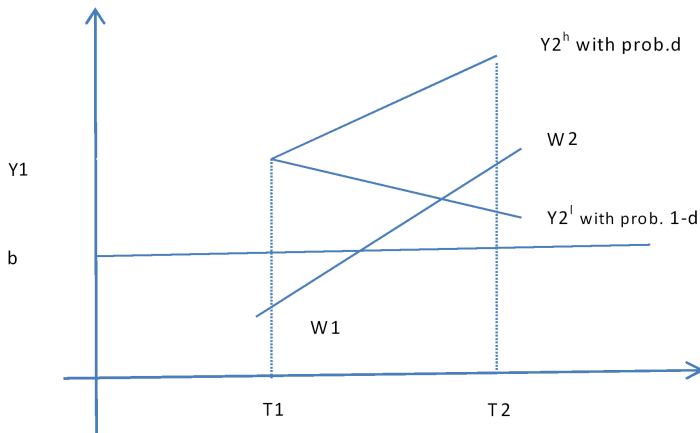If $T = 0$ firms always fire conditional on a adverse shock

$$y_2^l - w_2 \geq -T$$

Remark A severance payment $T^* \geq w_2 - y_2^l$ prevents inefficient separation.

Proposition

When there are wage deferrals, a severance payment can prevent inefficient separation for senior workers

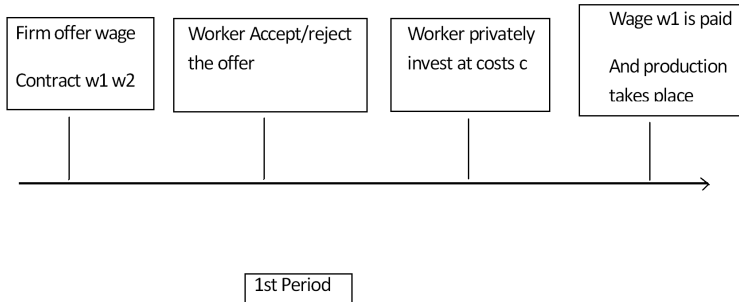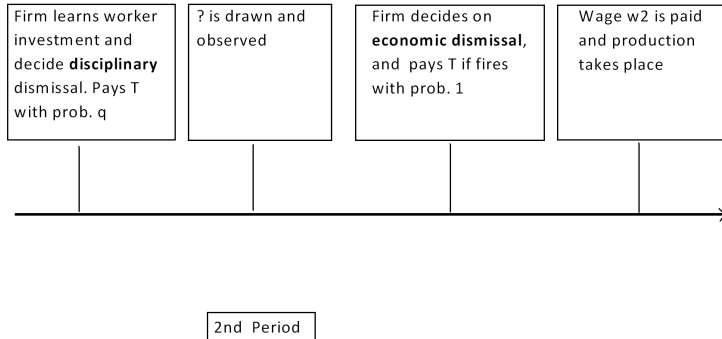# Exogenous Wage Deferral, Tenure and Severance Payments

Basic Set up with Endogenous Wage Deferrals

- Partial equilibrium: One worker and one firm (risk neutral) with a two periods job No discounting
- Baseline productivity on the job is $y > b$ (worker's outside option) in every period
- Wages are unilaterally set by the firm with full commitment and no renegotiation w_i, $i = \{1, 2\}$
- In period 1 the worker faces a specific investment opportunity $s = \{0, 1\}$. at costs to the worker C in the first period. s is worker's private information.
- Conditional on $s = 1$, productivity in the second period will be $y + \varepsilon$, with ε stochastic from $F(\varepsilon)$; support $\varepsilon \in [\varepsilon_l, \varepsilon^u]$ with $\varepsilon_l < 0$.
- Wages can not be contingent on productivity.
- Conditional on ε, the firm can unilaterally fire the worker.

Disciplinary versus Economic Dismissal

- **Disciplinary Dismissal**. A firm is entitled to freely dismiss a shirking worker that did not invest. In principle no severance payment is due
- **Economic Dismissal**. In period 2, Dismissing a worker that did invest in period 1 requires a compensation/severance equal to T
- The severance payment T is set by the government and is a pure transfer. The firm can not commit to a severance payment.
- Disciplinary dismissal must be proved in court.
  - With probability $1 - q$ the court observes shirking. no T is due
  - With probability q a shirking worker "gets away with it" and receives T.
  - q is observed after the firm has fired the worker. The expected severance to a shirking worker is qT.

| Firm learns worker investment and decide **disciplinary** dismissal. Pays T with prob. q | ? is drawn and observed | Firm decides on **economic dismissal**, and pays T if fires with prob. 1 | Wage w2 is paid and production takes place |

2nd Period

Efficient Separation

When joint surplus is zero

$$
\begin{aligned}
S_2 &= [w_2 - (b + T)] + [y + \varepsilon - w_2 - (-T)] \\
&= y + \varepsilon - b
\end{aligned}
$$

where both wages and severance payments do not enter in the joint surplus. Efficient separation ε^*

$$
\begin{aligned}
S_2(\varepsilon^*) &= 0 \\
\varepsilon^* &= b - y
\end{aligned}
\tag{1}
$$

Baseline Value Functions

- PDV Worker that does not invest and shirks

$$W_{(s=0)} = w_1 + b + qT$$

- PDV Worker that invest

$$W_{(s=1)} = w_1 - C + (1 - F(\varepsilon_d))w_2 + F(\varepsilon_d)[b + T]$$

  where $F(\varepsilon_d)$ is the dismissal probability

- Firms expected profits if the worker invest are

$$\Pi_{1(s=1)} = y - w_1 + \int_x Max[y + x - w_2; -T]dF(x)$$

Reservation Productivity

$$\Pi_2(\varepsilon) = Max[y + \varepsilon - w_2; -T].$$

$$\varepsilon_d = w_2 - y - T \qquad (2)$$

Firing increases with wages while it decreases with productivity and severance payment

Optimal Contract

$$(1 - F(\varepsilon_d))w_2 + F(\varepsilon_d)(b + T) - C \geq b + qT \qquad \text{(IC)}$$

$$w_2 = b + \frac{C + [q - F(\varepsilon_d)]T}{1 - F(\varepsilon_d)} \qquad (3)$$

$$W(s = 1) = w_1 - C + w_2(1 - F(\varepsilon_d)) + F(\varepsilon_d)(b + T) \geq 2b \qquad \text{(PC)}$$

$$\varepsilon_d = w_2 - y - T \qquad \text{(Reservation Rule)}$$

Too much firing in period 2

In general

$$\varepsilon_d = b - y + \frac{C + [q - F(\varepsilon_d)]T}{1 - F(\varepsilon_d)}$$

Proposition

RESULT: If there are no severance payment $(T = 0)$ Firing is too high in the second period

$$\varepsilon_{d(T=0)} = b - y + \frac{C+}{1 - F(\varepsilon_d)} > \varepsilon^* = b - y$$

Perfect Monitoring (q=0): Worker Never gets away with Shirking

With $q = 0$ shirking is perfectly detected.

$$w_{2(q=0)} - b = \frac{C - F(\varepsilon_d)T}{1 - F(\varepsilon_d)} \tag{4}$$

Severance as a discipline device (you get it only if you do not shirk).
Severance payments reduce senior wages

Severance payment always paid (q=1):

severance payments increase senior wages but are neutral from the allocative standpoint

$$w_{2(q=1)} - b = \frac{C}{1 - F(\varepsilon_d)} + T \qquad (5)$$

$$\varepsilon_{d(q=1)} = b - y + \frac{C}{1 - F(\varepsilon_d)}$$

SP affects the wage profile (they make it steeper)

SP and in the two periods model

Proposition

a) If there are no severance payment ($T = 0$), the firm fires workers too frequently (ε_d is too high)

b) In case of perfect court monitoring ($q = 0$), severance payment T reduces w_2 and hence reduces firing. In other words, severance payments act as discipline device

c) If workers always get severance payment ($q = 1$), the severance payment increases w_2 but they are neutral in terms of dismissal. It only influences the wage profile by making it steeper (Lazear,1990).

Optimal Severance Payment

The optimal T should restore efficient separation

$$\varepsilon_d(T) = \varepsilon^*$$

$$T = w_2(\varepsilon_d) - b$$

i.e., is equal to the wedge between the inside and the outside wage.

$$T^* = \frac{C + [q - F(\varepsilon^*)]\, T^*}{1 - F(\varepsilon^*)} \qquad q < 1$$

Solving this for T^* gives

$$T^* = \frac{C}{1 - q} \qquad q < 1$$

To Sum Up on Efficiency:

Proposition

i) If $q = 1$ (shirkers always get severance pay) the optimal severance pay is undefined and there is no welfare loss of setting $T = 0$.
ii) For all other values of q, the optimal severance pay is strictly positive and given by

$$T^* = \frac{C}{1 - q} > 0$$

Monitoring, Firm Size and Severance Payment

- Monitoring workers behavior is easier in small firms; thus, getting away with it is easier in large firm ($q_{small\ firms} < q_{large\ firms}$)
- Larger q requires larger severance payments

Hence, SP should be larger in larger firms

Extensions to 3 Periods:

- Workers invest only in period 1
- Workers invest in period 1 and Period 2, and further $C_2 > C_1$ and $q_2 > q_1$

No Investment in Period 2....No Contratto Unico

$t = 3$ but workers only invest $t = 1$. Then the following is true

- The severance pay in period 2, T_2, is

$$T_2 \geq \frac{C}{1-q}$$

- Optimal firing decisions in period 3 requires that $T_3 = w_3 - b$

- The PC gives a constraint on $w_2 + w_3$, but not on the wage-tenure profile. The severance pay T_2 is independent of the wage-tenure profile (as long as the participation constraint of the worker is satisfied).

- If $w_2 \geq b$, then $T_2 > T_3$ (unfortunately)

Investment in Period 2....Contratto Unico!!

- Worker has to provide effort in both periods.
- Suppose further that the probability of getting away with shirking is higher for senior workers ($q_2 > q_1$) and that there is an increasing marginal cost of effort ($C_2 > C_1$). Then the following holds:
  - The severance pay is increasing with tenure
  - Wages are increasing in tenure, $w_2 < w_3$. If q_2 is close to q, then we know for sure that also $w_1 < w_2$.

Burden of Proof and Endogenous "q"

- Court observes productivity at time 2 and knows distribution of productivity with and without investment
- Investment in period 1 shifts the distribution of productivity by Δ.
- distribution of productivity in period 2 for a *shirking* worker is uniform between α and β so that

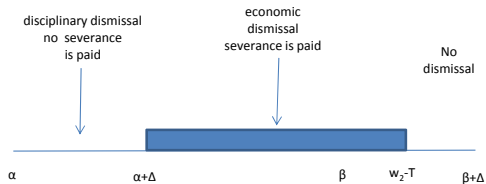$$X^S \sim U[\alpha; \beta], \tag{6}$$

  where X^S is actual productivity in period 2 for a shirking worker.
- productivity in period 2 for an *investment* worker is shifted to the right by a factor Δ so that

$$X^I \sim U[\alpha + \Delta; \beta + \Delta], \tag{7}$$

- we assume that the support of the two distributions has an

Court decisions

Endogenous q and Optimal Severance

- Efficient severance payment requires

$$T = \frac{C}{1-q} = \frac{C(\beta - \alpha)}{\Delta} \qquad (9)$$

- from which it follows that $q = 1 - \frac{\Delta}{\beta - \alpha}$
- this corresponds exactly to the probability that a shirking worker gets away with it, either because he is fired with severance payments or because he is retained in period 2

Policy Implications and Conclusions

- With wage deferrals, SP can reduce inefficient firing of senior worker
- With workers' moral hazard, SP can act as a worker's discipline device
- Severance Payments Increasing with tenure should be taken seriously
- Rationalize why SP should be smaller in smaller firms
- With burden of proof on the firm, shirkers can "'get away with it"'