

Why Do Lazy People Make More Money?

The Strange Case of the Public Sector Wage Premium

Ugo Panizza
Office of the Chief Economist
Inter-American Development Bank

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Abstract

Empirical work suggests the presence of a public sector wage premium. This paper investigates the theoretical reasons for the presence of a such a premium. The results of the paper are consistent with the higher premium paid to women and with the fact that the premium decreases with skills. The key insight of the paper is that job security undermines the incentive to work hard and forces the public sector to pay higher wages. One implication of the paper is that the public sector wage premium can be used as an indicator of *inefficiency* of the public sector.

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France has been described as a “civil servant paradise.” Not only do its 4.5m public-sector workers enjoy near-total job security; they also work shorter hours, get more pay, longer holidays, larger pensions, wider health cover, fatter bonuses and bigger perks than their counterparts in the private sector. They usually retire earlier too.”

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1 Introduction

I once took a test that included the following question: “Given two otherwise identical jobs, the job where workers are more likely to be fired should pay a higher wage. True or false?”

I answered “True” and passed the test. I should have failed! If the wording of the question had been: “Given two otherwise identical jobs, one performed within the private sector and

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the other within the public sector, the private sector job should pay more. True or False?” I would have given the same wrong answer.

As pointed out by *The Economist*, in many countries the public sector offers a pleasant and non-competitive work environment and a level of job security that cannot be matched in the private sector. Quinn (1982) and Bellante and Long (1981) show that the fringe benefits enjoyed by public sector workers are substantially larger than the fringe benefits offered in the private sector. Poterba and Rueben (1998), show that in 1993 benefits averaged to 43.8% of wages for public sector workers and 40.3% for private sector workers. Furthermore, Quinn (1977) finds that private sector workers tend to be subject to more work-place disamenities (pace of work, supervision, and danger) than their public sector counterparts. If we add to this the stereotypical vision of the public sector worker as an individual with low productivity (I will refer to this as the Newman factor)¹ we would expect that the public sector should pay wages that are substantially lower than the wages paid in the private sector. This is not the case. There is mounting evidence that wages paid in the public sector are not lower and are often significantly higher than wages paid in the private sector (Gregory and Borland, 1997, Panizza and Qiang, 1999). In essence, there exists a “public sector wage premium.”

While on average wages are higher in the public sector, the opposite is true if only highly skilled workers are considered. The wage compression that characterizes the public sector leads to a situation where highly skilled workers often face a public sector wage penalty. The data also show that the wage premium is higher for women than for men.

This paper tries to answer the following two questions: (i) Why does the public sector pay higher average wages? (ii) Why does the premium decrease with skills? It will also be shown that the results of the paper are consistent with the presence of a higher premium for women. The last section of the paper shows that the wage premium persists even if the private sector has a superior screening technology and hires individuals who are, on average, more productive than the labor force employed by the public sector.

The existing theoretical literature on the public sector wage premium consists mainly of verbal explanations and emphasizes the role of the higher level of unionization and the soft

¹From the postal worker of the TV show Seinfeld.

budget constraint faced by the public sector (Ehrenberg and Schwarz, 1986, and Gregory and Borland, 1997, are two excellent surveys). Holmlund (1993) presents a formal model in which the public sector wage premium arises from the fact that, while the private sector unions fully internalize (through the decrease in employment) the cost of any increase of the wage bill, the public sector unions are able to discharge part of the burden on the private sector.

This paper offers an alternative explanation for the public sector wage premium. The model of Section 3 focuses on the fact that the public sector is not able to offer its workers the package of incentives available to the private sector. The paper adopts an efficiency wage model where the main incentive for working hard is the probability of being fired if caught shirking. In this setting, the higher level of firing costs faced by the public sector tightens the no-shirking constraint for the public sector and leads to higher wages. Hence, the higher job security offered by the public sector, instead of being compensated by lower wages, is the main cause of the public sector premium.

This paper does not contradict but rather complements the political considerations raised by the previous literature. Here the political power of the public sector unions is reflected by the public sector's relative difficulty (with respect to the private sector) in firing workers who shirk. In countries with a large public sector, unstable political majorities, and weak institutional systems, public sector unions will have a strong influence on policy-makers and force the latter to pay higher rents to public sector workers.

An implication of the paper is that the wage premium can be used as a measure of the relative *inefficiency* of the public sector with respect to the private sector. The idea that the public sector premium can be used as an indicator of *inefficiency* of the public sector goes against the common wisdom —mainly based on the experience of one country: Singapore— that higher public sector wages would decrease corruption and therefore increase the efficiency of the public sector (Nunberg and Nellis, 1995, Van Rijckeghem and Weder, 1997). Using a panel of 31 countries Van Rijckeghem and Weder (1997) do not find a strong correlation between public sector wages and corruption. Rauch and Evans (1997) survey the relationship between the bureaucratic structure and performance of 35 less developed countries. They find a positive correlation between the quality of bureaucracy on

the one hand and meritocratic recruitment and promotion systems on the other but do not find any clear correlation between the former and the level of public sector pays. La Porta *et al.* (1998) find a negative correlation between public sector wages and various indicators of government efficiency and conclude that countries in which bureaucrats have much power they collect both high wages and significant bribes. These results are consistent with the idea of this paper: high public sector wages do not derive from a mechanism that tries to attract the best workers to the public sector; they rather arise from the government's inability to solve its principal agent problem. Easterly (1998) points out that: "People respond to incentives. People respond to incentives. People respond to incentives." Higher pays, however, do not seem to be the best method to provide public sector workers with the right set of incentives.² Meritocratic recruitment and promotions are the policies that offer the right incentives and have a positive effect on the quality of the public sector.

The paper is organized as follows: Section 2 describes some stylized facts regarding the public/private wage differential. Section 3 presents the basic model that generates the public sector wage premium. Section 4 shows that the presence of a premium is not affected by a mechanism where the private sector can skim the labor force and hire the best workers (hence, the title of paper). Section 5 concludes.

2 Is There a Public Sector Premium?

This section reviews the existing empirical literature on the public sector wage premium and presents some basic stylized facts.³ While there exists a wide literature testing for the presence of a public sector wage premium in the United States (Ehrenberg and Schwarz, 1986, survey 23 studies that support the presence of a public sector wage premium) considerably little work has been done at the cross-country level. Blanchflower (1996) computed the public sector wage premium for 15 OECD countries. His results are reported in Table 1. According to Blanchflower's estimations, 11 countries have a positive and statistically significant public sector wage premium and only one (Norway) has a statistically significant public sector wage penalty. In most countries, public sector employees earn between 4 and

²Van Rijckeghem and Weder (1997) find that quasi-eradication of corruption would require a relative wage of 2-8 times the manufacturing wage.

³This section is mostly based on Gregory and Borland's (1997) excellent survey.

Table 1: The Public Sector Wage Premium in OECD Countries

Country	Coefficient	t-statistics	Year
Australia	0.04	2.08	1990-91
Austria	0.01	0.61	1991-92
Canada	0.09	2.65	1992-93
Germany	0.06	4.71	1989-93
Ireland	0.09	2.67	1988-91
Italy	0.08	3.19	1989-93
Israel	-0.02	0.35	1993
Japan	0.21	2.71	1993
Netherlands	0.04	2.08	1991-93
New Zealand	0.11	3.32	1992-93
Norway	-0.07	4.89	1989-93
Spain	0.13	1.97	1993
Switzerland	-0.05	0.77	1987
United Kingdom	0.04	2.67	1989-93
United States*	0.09	13.67	1993

*Federal Government only. Source: Blanchflower (1996).

13 percent more than workers with similar characteristics employed in the private sector (Japan, with a 21 percent public sector premium, is clearly an outlier).

The results of Table 2 were obtained by running wage regressions on household surveys data for 14 Latin American countries (Panizza and Qiang, 1999). In this sample of less developed countries we also find that, on average, the public sector pays more than the private sector. Out of 14 countries, 4 show a public sector penalty and 8 a public sector premium (the coefficient is not statistically significant for the two remaining countries).

The estimations reported in Tables 1 and 2 do not distinguish males from females. Gregory and Borland (1997) survey more than 34 studies and find that the public sector wage premium is high for women but often not statistically significant for men. The results of Table 1 may thus proxy for the lower gender gap in the public sector. Gornick and Jacobs (1998) run separate regressions for men and women and find a large public sector premium in Canada and in the United States but a wage penalty for Swedish men and women. Gregory and Borland (1997) suggest that in the United Kingdom there is a premium for women but not for men. Bardasi (1998) finds that men working in the Italian public sector earn hourly wages that are between 7 and 17 percent higher than the wages paid to private sector male workers. The wage premium for women oscillates between 27 and 43 percent.

Table 2: The Public Sector Wage Premium in Latin American Countries

Country	Coefficient	t-statistics	Year
Bolivia	-0.15	4.60	1995
Brazil	-0.06	9.28	1995
Colombia	0.18	13.88	1995
Costa Rica	0.17	10.41	1995
Ecuador	-0.06	1.74	1995
Honduras	0.08	3.32	1996
Mexico	0.11	5.75	1994
Nicaragua	-0.01	0.38	1993
Panama	0.12	8.56	1995
Paraguay	0.17	15.07	1995
Peru	0.08	5.00	1996
El Salvador	0.24	12.45	1995
Uruguay	-0.06	4.99	1995
Venezuela	-0.05	4.53	1995

Source: Author's estimations.

Panizza and Qiang (1999) find a public sector premium for both men and women in several Latin American countries.

Poterba and Rueben (1998) investigate the presence of a public sector wage premium for state and local governments in the United States. Although previous studies found that both state and local governments workers face a wage penalty (Ehrenberg and Schwarz, 1986), Poterba and Rueben show that this penalty has decreased in the last decade and, in many states, has become a premium.

Another interesting point is the correlation between the wage premium and skills. By comparing the distribution of earnings in the private sector with the distribution of earnings in the public sector it is possible to show that the latter is much more compressed. Katz and Krueger (1991) run separate regressions for US workers belonging to different education groups and show that college-educated males face a public sector penalty, while males with lower education enjoy a public sector premium. Similar findings are obtained for females, but the penalty for college-educated women is close to zero and the premia for women with lower levels of education are higher. Disney *et al.* (1997) apply quantile regression analysis to UK data and find that the public sector premium is inversely related to an employee's position in the distribution of earnings. Similar results have been found for Australia and Sweden (Gregory and Borland, 1997).

The more concentrated earning distribution in the public sector may have an important selection effect. Gregory and Borland (1997) suggest that clerical workers with high levels of ability are more likely to leave the public sector. Katz and Krueger (1991) find that applications for Federal Government jobs have increased for blue collar workers and decreased for white collar workers. They also find that the wage compression of the public sector has lowered the quality (measured by standardized tests) of white collar workers in the public sector. Using a sample of 2000 Colombian workers, Psacharopoulos and Velez (1992) find a positive return to IQ in the private sectors but no return to IQ in the public sector (they also find that workers employed in two sectors have similar returns to education).

The data used in the estimations of Tables 1 and 2 do not include non-wage benefits. Hence, the results are likely to underestimate the rent enjoyed by public sector workers. Using U.S. data, Quinn (1982) finds that public sector employees receive pension contributions that are 30 to 50 percent greater than the pension contributions paid by private employers. Braden and Hydland (1993) estimate that one-third of the raw differential in total labor cost between public and private sector employees can be attributed to non-wage benefits. Brunelli and Cox (1992) estimate that only if a federal employee's starting salary is 33.7 percent below the salary of a comparable private employee would there be no excess rent for the public employee.

Since wage regressions underestimate the real difference between public and private sector compensation, indirect methods are often used to measure the rent captured by public sector employees. One option consists in estimating whether there is a "queue" for public sector jobs. Another alternative involves comparing the quit rates of workers in each sector. Longer queues or lower quit rates in the public sector would indicate that there is a rent to be collected from working in the public sector.

On March 24, 1981 *The Wall Street Journal* reported that the Postmaster of New York City received more than 220,000 applications for 2,500 job openings (more extreme examples can be found in my own country: Italy). Venti (1987) moves beyond this anecdotal evidence and tests the existence of queues for federal government jobs. He finds that the number of men (women) who seek for such jobs is 2.5 (6) times the number of positions available.

Brunelli and Cox (1992) claim that the average tenure of non-military federal government

workers is approximately three times that of private sector workers and use this as indirect evidence for the fact that federal workers are overpaid. While Long (1982) finds strong evidence for low quit rates in the public sector, Ippolito (1987) presents a dissenting view and claims that, once one controls for the different pension systems, the turnover for US federal employees is not significantly different from the turnover in the private sector.

To recapitulate, three stylized facts emerge from the literature cited above: (i) There is a rent associated with public sector jobs: public sector workers receive both higher wages and higher non-wage compensation. (ii) The wage premium is higher for women than it is for men. (iii) The premium is inversely correlated with earnings (and it may become a penalty for high earners). The remaining part of the paper will present a model that explains the presence of a public sector wage premium. This model will also prove to be consistent with the second and third stylized facts discussed above.

3 The Model

This section builds a simple general equilibrium model with a public and a private sector. The model is built within a standard Shapiro and Stiglitz (1984) efficiency wage setting, only the steady state properties of the model will be analyzed. I assume that employers cannot perfectly monitor the workers' level of effort, the only difference between the private sector and the public sector is that the latter finds it harder to fire or lay off its employees. The paper shows that, within a standard efficiency wage model, *the difference in the ability of firing employees is the only assumption required to generate a public sector wage premium.* Section 4 introduces two types of workers (the “good” and the “bad” workers) and shows that the presence of a premium is robust to a situation where the private sector has a better selection device so that workers hired there are more productive than workers hired in the public sector.

The assumption that the public sector finds it harder to fire workers reflects the real world constraints faced by the public sector. These constraints are often determined by the political power of unions representing public sector workers. There is vast empirical evidence that strong public sector unions are associated with high non-wage compensation and that the union/non union earning differential is stronger for the public sector than for

the private sector (Gregory and Borland, 1997).

Although the model of this paper only considers firing constraints one should keep in mind that the public sector is generally not able to use a full package of incentives that is available to the private sector. Unions do not only limit the public sector's ability to fire or lay off workers but also limit the overall ability of the public sector to manage its own personnel by imposing constraints on merit-based career advancements and on promotions that are not based on seniority criteria. The natural interpretation of the parameter θ (used below to capture the firing constraint faced by the public sector) should then be the overall inability of the public sector to offer incentives to its workers. While this paper abstracts from the political process, it should be kept in mind that the structure of the political system is very important in determining the power of the public sector unions (and hence the size of θ). In particular, large public sectors and weak and/or instable political coalitions are likely to be associated with powerful public sector unions.⁴

3.1 Labor Supply

The labor force is normalized to 1. Workers obtain utility from their wage and dislike effort. Formally, the period- t utility function of the representative worker is given by:

$$U_t = w_{i,t} - E_t, \tag{1}$$

$w_{i,t}$ is the wage paid by firm i in period t and E is the disutility from effort. Each worker has a subjective discount rate r (equal to the interest rate) and maximizes V : the expected present value of the utility functions described in Equation (1). Since all firms in the private sector are identical (the only difference is between public and private sectors), from now on the subscript i will be dropped.

Labor is the only input in the production process. The production function is given by $HF(L)$. F is a standard production function with $F' > 0$, $F'' < 0$, and $F''L + F' \geq 0$. HL is the amount of human capital-augmented labor used in the production process (H measures human capital per worker and L the number of workers).⁵ The level of effort can

⁴ An alternative interpretation of θ is that the public sector faces higher monitoring costs.

⁵ Introducing human capital in a non-linear fashion (i.e., modifying the production function to be: $F(HL)$) would not change the basic results of the paper.

take two values, $E = 0$ if no effort is supplied (i.e., if the worker shirks) and $E > 0$ if the worker does not shirk. Workers who shirk do not produce anything and possibly decrease the productivity of the workers who do not shirk (Kremer, 1993).

An employee can lose her job for two reasons: (i) if caught shirking and (ii) for an exogenous separation rate. These two elements determine the flow into unemployment. In the private sector the probability of being caught if one shirks is q and the exogenous separation rate is b . The corresponding measures for the public sector are θq and θb . $\theta \in [0, 1]$ captures all the political constraints that make firing difficult for the public sector. When θ is equal to 1 there is no difference between the public and the private sector. We can then interpret $(1 - \theta)$ as the additional (with respect to the private sector) firing costs faced by the public sector.

I start by studying the decision problem of a worker employed in the private sector (from now on, the private sector will be labelled by p and the public sector by g). A worker who shirks obtains utility from her wage plus the discounted value of the utility from being unemployed (V_u) times the probability of being unemployed (given by the probability of being caught shirking plus the exogenous separation rate) plus the utility from being employed and shirking (V_{sp}). In steady state, a worker who finds it optimal to shirk in the present period will find it optimal to shirk in all future periods (the problem she faces is the same in each period). Hence the utility function of a shirker is given by:

$$V_s^p = w^p + (1 + r)^{-1} \{ (b + q)V_u + [1 - (b + q)]V_s^p \}. \quad (2)$$

Now let us look at the utility function of a worker who does not shirk:

$$V_{ns}^p = w^p - E + (1 + r)^{-1} \{ bV_u + (1 - b)V_{ns}^p \}. \quad (3)$$

Note that the probability of being fired is lower in (3) (q does not appear in the equations) because the worker does not shirk. The utility functions for the public sector are similar to the ones of Equations (2) and (3), but now the probability of being fired is multiplied by θ . A public sector worker who shirks will therefore obtain the following utility:

$$V_s^g = w^g + (1 + r)^{-1} \{ \theta(b + q)V_u + [1 - \theta(b + q)]V_s^g \}. \quad (4)$$

A public sector worker who does not shirk will derive the following utility:

$$V_{ns}^g = w^g - E + (1+r)^{-1}\{\theta b V_u + (1-\theta b)V_{ns}^g\}. \quad (5)$$

Equations (2), and (3) can be rearranged to yield the following:

$$V_s^p = \frac{w^p(1+r)}{r+b+q} + \frac{b+q}{r+b+q}V_u, \quad (6)$$

$$V_{ns}^p = \frac{(w^p - E)(1+r)}{r+b} + \frac{b}{r+b}V_u, \quad (7)$$

and Equations (4), and (5) can be rearranged to yield the following:

$$V_s^g = \frac{w^g(1+r)}{r+\theta(b+q)} + \frac{\theta(b+q)}{r+\theta(b+q)}V_u, \quad (8)$$

$$V_{ns}^g = \frac{(w^g - E)(1+r)}{r+\theta b} + \frac{\theta b}{r+\theta b}V_u. \quad (9)$$

3.2 Equilibrium Wage and Labor Demand

Since a worker who shirks does not produce any output and may interfere in the production process affecting the productivity of workers who do not shirk (Kremer, 1993), employers need to find a way to prevent workers from shirking. This can be done by setting the wage at a level that satisfies the following condition: $V_{shirk} \leq V_{noshirk}$, i.e., the wage needs to be high enough so that the utility obtained from shirking is not higher than the utility derived from working hard. Hence, the private and public sectors will need to pay wages that satisfy the following conditions:

$$V_s^p = \frac{w^p(1+r)}{r+b+q} + \frac{b+q}{r+b+q}V_u \leq \frac{(w^p - E)(1+r)}{r+b} + \frac{b}{r+b}V_u = V_{ns}^p, \quad (10)$$

$$V_s^g = \frac{w^g(1+r)}{r+\theta(b+q)} + \frac{\theta(b+q)}{r+\theta(b+q)}V_u \leq \frac{(w^g - E)(1+r)}{r+\theta b} + \frac{\theta b}{r+\theta b}V_u = V_{ns}^g. \quad (11)$$

Since the employers do not want to give any extra rent to the workers they will choose a wage that satisfies (10) and (11) as equality. solving Equations (10) and (11) for the respective wages, we obtain:

$$w^p = \frac{r}{1+r}V_u + E \left(1 + \frac{r+b}{q}\right), \quad (12)$$

$$w^g = \frac{r}{1+r}V_u + E \left(1 + \frac{r+\theta b}{\theta q}\right). \quad (13)$$

The next step is to evaluate the utility of being unemployed. In each period an unemployed worker will receive a job offer from the private sector with probability z and an offer from the public sector with probability u .⁶ The value of being unemployed is therefore given by the present value of the probability of being offered a public sector job in the next period times the utility derived from being employed by the public sector plus the probability of being offered a private sector job times the utility derived from working for the private sector. To this we need to add the utility of being unemployed and not being offered any job. Formally:

$$V_u = (1 + r)^{-1} [zV_{ns}^p + uV_{ns}^g + (1 - z - u)V_u]. \quad (14)$$

Plugging Equations (7) and (9) into (14) and solving for V_u yields the utility from being unemployed:

$$V_u = \frac{(1 + r) [z(w^p - E)(r + \theta b) + u(w^g - E)(r + b)]}{r[(r + b)(r + \theta b + u) + z(r + \theta b)]}. \quad (15)$$

Substituting Equation (15) into Equations (12) and (13) and solving for the public and private sectors wages yields:

$$w^g = E \left[1 + \frac{ur(1 - \theta)}{(r + \theta b)\theta q} + \frac{(r + b)(r + \theta b + u) + z(r + \theta b)}{(r + \theta b)q} + \frac{r(1 - \theta)}{\theta q} \right], \quad (16)$$

$$w^p = E \left[1 + \frac{ur(1 - \theta)}{(r + \theta b)\theta q} + \frac{(r + b)(r + \theta b + u) + z(r + \theta b)}{(r + \theta b)q} \right]. \quad (17)$$

Notice that although we are still at a partial equilibrium level we can already note a difference between the wages paid by the public and private sectors. The last term in Equation (16) is the public sector wage premium. This result depends on the assumption that the public sector faces the same difficulty in laying off and firing people (i.e. both b and q are multiplied by the same coefficient θ). If the exogenous separation rate for the public sector were γb instead of θb then Equation (4) would become $V_s^g = w^g + \frac{\{(\gamma b + \theta q)V_u + [1 - (\gamma b + \theta q)]V_{sg}\}}{(1 + r)}$ and a necessary condition for the presence of a public sector wage premium would be: $\gamma > \theta - \frac{r(1 - \theta)}{b}$. In other words, as long as the cost of laying off people (i.e., $(1 - \gamma)$) is not much higher than the cost of firing people who shirk (i.e., $(1 - \theta)$) we will still observe a public sector wage premium.

⁶ u and z are what Shapiro and Stiglitz (1984) call the accession rate.

The private sector will hire people until the wage paid is equal to the after taxes marginal productivity of labor:

$$w^p = HF'\left(\frac{L^p}{n}\right)(1 - \tau). \quad (18)$$

Where L^p is the number of workers employed in the private sector, τ the tax rate, and n the number of firms.

The demand for labor in the public sector is determined by the government budget constraint:

$$w^g L^g = w^p L^p \left(\frac{\tau}{1 - \tau} \right). \quad (19)$$

Here I abstract from the problems relating to the determination of the optimal tax rate. Later it will be shown that if τ is chosen to maximize employment, taxation will have no effect on the public sector wage premium.

3.3 General Equilibrium

In steady state, the flow in and out of the labor market needs to be the same so: $bL^p = z[1 - L]$, $\theta bL^g = u[1 - L]$, and $L = L^p + L^g$. From these equations we can derive:

$$z = \frac{bL}{1 - L} - \frac{u}{\theta}. \quad (20)$$

Substituting (20) into (17) yields:

$$w^p = E \left[1 + \frac{bL}{(1 - L)q} + \frac{r + b}{q} \right]. \quad (21)$$

Solving for the public sector wage, we obtain the following equation:

$$w^g = E \left[1 + \frac{bL}{(1 - L)q} + \frac{r + b}{q} + \frac{r(1 - \theta)}{\theta q} \right]. \quad (22)$$

Equation (21) is identical to the “no shirking constraint” of Shapiro and Stiglitz (1984) and it says that the lower is unemployment the higher is the temptation to shirk and therefore the higher the wage that needs to be paid.

By manipulating Equation (20) and solving for u and z it is possible to derive an equation for employment in the private sector: $L^p = \Phi(L, r, \tau, \theta, q, b, n, E, H)$. It is shown in the appendix that: $\Phi_L > 0$, $\Phi_\tau < 0$, $\Phi_\theta < 0$, $\Phi_r > 0$, $\Phi_q < 0$, $\Phi_b > 0$, $\Phi_n < 0$, $\Phi_E > 0$,

and $\Phi_H < 0$. Substituting $L^p = \Phi(L, r, \tau, \theta, q, b, n, E, H)$ and Equation (21) into Equation (18) yields:

$$E \left[1 + \frac{bL}{(1-L)q} + \frac{r+b}{q} \right] = HF' \left(\frac{\Phi(L, r, \tau, \theta, q, b, n, E, H)}{n} \right) (1 - \tau). \quad (23)$$

Equation (23) implicitly defines aggregate labor demand as a function of all exogenous variables: $L(r, \tau, \theta, q, b, n, E, H)$. By computing implicit derivatives it is easy to show that: $L_r < 0$, $L_\theta > 0$, $L_q > 0$, $L_b < 0$, $L_E < 0$, and $L_H > 0$. It can also be shown that $L_\tau \leq 0$; an increase in the tax rate will decrease the number of private sector workers (because $\Phi_\tau < 0$) but may increase the number of public sector workers. The final effect on employment will depend on which of these two factors dominates.

The public sector wage premium can now be defined as the ratio between the public and private sector wages:

$$\Omega = \frac{w^g}{w^p} = 1 + \frac{r(1-\theta)(1-L(r, \tau, \theta, q, b, n, E, H))}{\theta[(q+r)(1-L(r, \tau, \theta, q, b, n, E, H)) + b]} \geq 1. \quad (24)$$

It is straightforward to show that: $\Omega_r > 0$, $\Omega_\tau \leq 0$, $\Omega_\theta < 0$, $\Omega_q < 0$, $\Omega_b > 0$, $\Omega_E < 0$, and $\Omega_H < 0$. Countries with a higher interest rate, a higher percentage of people with low productivity, and higher monitoring costs (hence low q) will have a larger public sector wage premium.

Due to a standard Laffer curve argument, an increase in taxation has an ambiguous effect on the wage premium. If the public sector chooses a value of τ that is below the one that maximizes employment then $L_\tau > 0$ and $\Omega_\tau < 0$. The opposite will be true if τ is set above its employment maximizing level. If τ is chosen to maximize employment $L_\tau = 0$ and $\Omega_\tau = 0$.

Particularly interesting is the effect of θ on the public sector wage premium. Notice that θ is the parameter that captures the relative (with respect to the private sector) ability of the public sector to solve its principal agent problem. When $\theta = 1$, the public and private sectors are identical and $\frac{w^g}{w^p} = 1$. Hence, θ is an ideal *objective* measure of the efficiency of the public sector. This is an important result. While *subjective* measures of the efficiency of the public sector are widely available, to the best of my knowledge, there are no *objective* measures of the efficiency of the public sector. Subjective measures are likely

to be influenced by the country’s level of development and therefore, when used in growth regressions, may give rise to a serious endogeneity problem. Using a proxy of θ (i.e., the public sector wage premium) may solve this endogeneity problem.

Section 2 discussed that the public sector wage premium tends to be higher for women. This observation is consistent with one implication of the model presented in this paper. By deriving Equation (24) it is possible to show that the premium is positively correlated with unemployment (i.e., $\Omega_L < 0$). Although this paper does not differentiate between male and female workers, it is well known that female unemployment is higher than male unemployment and, within the model of this paper, this can explain why a higher premium is paid to women.

The model is also consistent with the third stylized fact discussed in Section 2, namely that the premium decreases with skills. Since $\Omega_H < 0$ an increase in the level of human capital leads to a decrease in unemployment and brings about a lower premium. It should be pointed out that the model always predicts a positive premium and hence cannot explain why, for high levels of skills, the premium becomes negative.

As promised, the simple model of this section provides an explanation for the three stylized facts illustrated in Section 2. The next section will show that the premium persists even if the private sector is able to hire a better pool of workers.

4 So, Why Do Lazy People Make More Money?

So far I discussed the reasons why the public sector pays more than the private sector but, I did not show why —as claimed in the title of the paper— lazy people make more money. In fact, the paper assumes that all workers are the same and does not even consider the existence of lazy people. This section shows that the presence of a public sector premium is robust to an extension where there are two types of workers (the “good” and the “bad” workers) and the private sector has a better selection device to identify the worker type.

There are two factors that determine the type of an employee: attitude toward work and productivity. A worker may be bad because she dislikes effort more than a good worker, and hence would require a higher wage in order to supply the necessary effort. Alternatively, a worker may be bad because he is less productive than a good worker (i.e., produces less

output for each unit of effort). Formally a good worker will have the following utility and production functions:

$$U^l = w_i - \alpha E, \quad (25)$$

$$Y = HF(L), \quad (26)$$

whereas a bad worker will have the following utility and production functions:

$$U^l = w_i - E, \quad (27)$$

$$Y = \beta HF(L). \quad (28)$$

The difference between the two types of workers is captured by the parameters α and β . $\alpha < 1$, indicate that good workers dislike effort less than bad workers and $\beta < 1$ indicate that good workers are more productive than bad workers. The results of this section do not change if I assume that good and bad workers differ only in their utility function (which is equivalent to setting β equal to one) or differ only in their productivity (which is equivalent to setting α equal to one).

If I assume that both sectors do not have a mechanism to discriminate good workers from bad workers I obtain results which are identical to the ones of the previous section. Since the purpose of this section is to show that the premium persists even when firms in the private sector are able to hire better workers, I will now assume that the private sector has a screening technology that enable firms to identify a fraction $\lambda \in [0, 1)$ of the bad workers, whereas the public sector is not able to identify the type of workers.⁷ This assumption is justified by the hiring practice of the public sector. In many countries public sector workers are hired through methods whose outcome is more correlated with nepotism or corruption than with the skills of the applicants. Poor screening of applicants is also common in countries with relatively modern and efficient bureaucracies. Ballou (1996) finds that US

⁷A firm in the private sector will never make the mistake to think that a good worker is a bad worker but can make the opposite mistake with probability $(1 - \lambda)$.

public schools undervalue cognitive skills and knowledge of the subject to be taught when they screen applicants for teaching positions. In some cases there are specific laws that aim at preventing discrimination by not allowing the public sector to use important information that can be instead exploited by private sector firms.⁸

The model as modified above can be solved with the same procedure of the previous section. Since bad workers dislike effort more than the good ones, if the former do not shirk nobody shirks. Employers will then apply the no-shirking constraint to the bad employees only. If the latter have a lower probability of being hired by the private sector, their utility from being unemployed (Equation (14) of Section 3) becomes:

$$V_u^l = (1 + r)^{-1} \left[(1 - \lambda)zV_{ns}^{p,l} + uV_{ns}^{g,l} + (1 - (1 - \lambda)z - u)V_u^l \right], \quad (29)$$

Following the same steps of the previous section we can derive the new versions of Equations (21) and (22):

$$w^p = E \left[1 + \frac{r + b}{q} + \frac{b}{q(1 - L)} [L - \lambda L^p] \right], \quad (30)$$

$$w^g = E \left[1 + \frac{r + b}{q} + \frac{b}{q(1 - L)} [L - \lambda L^p] + \frac{r(1 - \theta)}{\theta q} \right], \quad (31)$$

The wage differential between the two sectors $(w^g - w^p = E \frac{r(1 - \theta)}{\theta q})$ is the same as in Section 3. So, while nothing has changed in the wage differential, the superior screening technology of the private sector has now generated a situation where the public sector pays a higher wage *and* has a higher percentage of bad workers. In other words, lazy people do make more money (on average).

One caveat is that the above result holds only in a situation where there are unemployed good workers (full employment of good workers would lead to an infinite efficiency wage for the good workers). Hence, a tight labor market for skilled workers may explain why they face a public sector penalty. If unemployment for “good” highly skilled workers tends to zero, the private sector may find optimal to apply the no-shirking constraint to the good workers (instead of applying it to the bad workers) and this may lead to high private sector pays.

⁸One example is the legal value of the school degrees established by the Italian law. Under this law the public sector cannot give different weight to degrees earned in good versus bad schools.

5 Conclusion

Given that public sector employment offers more fringe benefits and higher job security, one would expect public sector wages to be substantially lower than the wages paid by firms in the private sector. This is not the case, however. There is mounting empirical evidence that supports the following three observations: (i) there is a public sector wage premium for low skilled workers; (ii) the wage premium is higher for women; and (iii) the wage premium decreases with skills. This paper uses a simple efficiency wage model to explain these three features of the public/private wage differential. Furthermore, building on the assumption that the private sector has a better technology to select its workers, the model can explain the Newman effect: people who dislike effort more tend to have better jobs in terms of higher job security *and* higher wages.

One feature of the data that cannot be explained by this model is that the premium becomes negative for high levels of skills. By introducing career concerns in the model one should be able to show that highly productive workers will choose the sector that promises faster career advancements, even though it pays lower initial wages and offers lower job security. This should generate a situation in which people with high, but non measurable skills, are concentrated in the private sector (as found by Psacharopoulos and Velez 's (1992) study of returns to IQ in the private and public sectors).

The model could also be extend to explain the finding by La Porta *et al.* (1998) of a positive correlation between public sector wages and corruption. If the level of effort is assumed to be a continuous rather than a discrete variable, the efficiency wage solution would require: $\frac{\partial w}{\partial E} = \frac{w}{E}$, in other words, the elasticity of the wage with respect to effort is equal to one.⁹ Since $\frac{\partial w}{\partial E}$ is decreasing in θ , a public sector with serious incentive problems (very low θ) will be characterized by a high wage to effort ratio, accepting low levels of effort (or a high level of corruption) and paying high wages.

Even more interesting are the possible avenues for empirical work. It was pointed out in the paper that the public sector wage premium could be used to create an objective measure of the relative efficiency of the public sector. It would then be interesting to generate a cross-

⁹I would like to thank Caroline Van Rijckeghem for pointing this out.

country data-set of wage premia and compare it with the available subjective measures public sector efficiency. Such a data-set could also be used to test for the other empirical implications of the model, i.e., the relationship among wage premia, unemployment, and the overall flexibility of the labor market (captured by q). A large data-set of wage premia could also be useful to investigate the relationship between public sector wages and government budget deficit.

Finally, it is worth pointing out that the model presented in this paper is built on the assumption that the public sector wants to maximize the productivity of its workers and hence uses a no-shirking constraint. If we assume that the public sector's objective is rather to maximize employment (tolerating some shirking) we would obtain the standard IMF/World Bank assumption that low wages are associated with low quality of the public sector. This paper aimed at providing a view contrarian to the common wisdom, the true behavior of the public sector probably lies somewhere in between.

A Appendix

Here, I show that for $L^p = \Phi(L, \tau, \theta, r, q, b, H, E)$, $\Phi_L > 0$, $\Phi_\tau < 0$, $\Phi_\theta < 0$, $\Phi_r > 0$, $\Phi_q < 0$, $\Phi_b > 0$, $\Phi_E > 0$, and $\Phi_H < 0$. By substituting Equations (18) and (22) into Equation (19):

$$E \left[1 + \frac{bL}{(1-L)q} + \frac{r+b}{q} + \frac{r(1-\theta)}{\theta q} \right] (L - L^p) - HF'(\frac{L^p}{n})L^p\tau = 0 \quad (32)$$

By implicit derivation of the Equation (32) I obtain:

$$\begin{aligned} \frac{\partial L^p}{\partial L} = \Phi_L &= \frac{w^g + \frac{Eb(L-L^p)}{q(1-L)^2}}{w^g + \tau H((F''L^p/n) + F')} > 0 \\ \frac{\partial L^p}{\partial \tau} = \Phi_\tau &= \frac{-F'(\frac{HL^p}{n})L^p}{w^g + \tau H(F''L^p + F')} < 0 \\ \frac{\partial L^p}{\partial \theta} = \Phi_\theta &= \frac{-Er}{q\theta^2 (w^g + \tau H((F''L^p/n) + F'))} < 0 \\ \frac{\partial L^p}{\partial r} = \Phi_r &= \frac{E}{q\theta (w^g + \tau H((F''L^p/n) + F'))} > 0 \\ \frac{\partial L^p}{\partial q} = \Phi_q &= \frac{-\frac{E}{q^2} \left(\frac{bL}{(1-L)} + \frac{r}{\theta} + b \right)}{q\theta (w^g + \tau H((F''L^p/n) + F'))} < 0 \\ \frac{\partial L^p}{\partial b} = \Phi_b &= \frac{\frac{E}{q} \left(\frac{L}{(1-L)} + 1 \right)}{w^g + \tau H((F''L^p/n) + F')} > 0 \\ \frac{\partial L^p}{\partial H} = \Phi_H &= \frac{-F'(\frac{L^p}{n})L^p\tau}{w^g + \tau H((F''L^p/n) + F')} < 0 \end{aligned}$$

Note that the denominators of the above equations are positive because of the assumption that $F''\frac{L^p}{n} + F' \geq 0$.

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