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# Pay competitiveness and its impact on public services

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## *ABSTRACT*

**Background:** Wage regulation is a debate in economics that has been on for nearly one century and the seminal work of Arthur Cecil Pigou. On one hand wage regulation is supposed to impede markets to clear and thus create distortion in labour allocation. On the other hand wage regulation is a consequence of a process for a fairer allocation of revenues between labour and capital. The research has focused on reasons for the existence of geographical pay dispersion. It has been argued that geographical pay dispersion is the result of markets allocating efficiently resources to different areas with different cost of living and amenity levels.

**Aim:** This paper investigates the research results of the impact of the pay gaps between two sectors in the economy on public services staffing and delivery.

**Methods and Results:** Standardised Spatial Wage Differentials (SSWDs) are standardised wages for different regions within a country. Those can be estimated for public service staff and a comparator group in the private sector. The gap between the two, following a neoclassical approach would be interpreted as the indirect cost faced by public sector. Propper and Van Reenan (2010) use those gaps in explaining

differences in death rates of Acute Myocardial Infraction in English hospitals. When the public sector pay is not as competitive as the private sector one, death rates are higher. Elliott et al. ( 2007; 2009; 2006) and Ma et al. ( 2009) investigate problems of recruitments in schools and hospitals. Vacancy rates are positively associated with higher gaps (public sector pay less competitive). Work in progress of the author show that similar results to the ones found by Elliott (2007) happen for French hospitals. Hospitals in départements which have a less competitive pay compared to the private sector tend to have a lower level of nursing staff.

Discussion: This area of research has huge policy implications. If the neoclassical framework is taken as granted then deregulating even further the pay of the public sector would be seen as a solution for improvement in public services delivery. However, one of the main criticism of markets is that they do not exist as in theory, they are institutions created by human societies. An alternative to markets is a democratic process in which pay setting is negotiated nationwide. In that latter case, not only the pay of individuals in different sectors would be negotiated but also inequalities, unemployment, cost of living and amenities could be taken into account.

## *1. Introduction*

In economics, since Adam Smith, it is a common assumption to think that wages are supposed to vary locally to adapt to the cost of living and amenities of the different areas. Where this happens workers in the low wage area are supposed to move to the highest paid area. Under the pressure of the labour supply the wage rate in the highest paid areas will decrease and the wage rate in the lowest paid areas will increase until they equalise. However, this may not happen if labour is not perfectly mobile and departure from the market rate may be sustained in the longer term.

Following this conceptual idea, empirical research has focused on wage differentials across areas and tried to explain it as consequences of workers characteristics, cost of living and amenities (Reilly, 1992; García and Molina, 2002; Pereira and Galego, 2011; Shah and Walker, 1983; Blackaby and Murphy, 1991; Blackaby and Murphy, 1995; Pierre-Philippe Combes et al., 2008; Vermeulen and Van Ommeren, 2009). There is one clear evidence from those articles: employees characteristics are predominant in explaining geographical variations of pay. For France, Combes et al. (2008) find that there are up to 50% of the wage differentials that are explained by workers characteristics. There is still much debate about what are the other variations capturing. Following the neoclassical assumption, it can be argued (Reilly, 1992) that those remaining variations are the consequences of amenities and cost of living, therefore local wages would compensate for differences in local areas characteristics.

Where there are two sectors of the economy with different institutions setting pay, the pay gap between the two sectors may cause damages to the least favoured sector. In the UK the gap between the pay in the public and the private sectors made the headlines in March 2012 (Wintour, 2012) when the Chancellor of the Exchequer declared that he would freeze the pay of workers in the public sector in areas where their pay is above the private sector pay. In doing so the private sector pay would not suffer from the unfair competition from the public sector pay. The Chancellor of the Exchequer point of view is shared by a report commissioned by the liberal think tank CentreForum (Wolf, 2010).

This document highlights the impact of the pay gaps between two sectors of the economy on the public sector staffing and service delivery. In the following section (2), we present the neoclassical expectations from the impact of a departing pay rate from the market rate on the public sector. Section 3 presents the empirical strategy followed in the papers presented in Section 4. Finally Section 5 will discuss those results and attempt to give an alternative understanding to what could be the political implications of the review of the papers presented here.

## *2. Neoclassical expectations of wage gaps*

The literature on the impact of union/collective bargaining on wage dispersion provides evidence that the unionised sector exhibits less wage variation than the non unionised sector (Card et al., 2003; Hayter and Weinberg, 2011). The wage variation is both less widespread among the sector for which there is a collective bargaining and for the sector which is not covered. When the collective bargaining coverage decrease among a country, it is not only the variation among the previously covered sectors that increase but also among the workers which are not covered (Hayter and Weinberg, 2011). Therefore, collective agreements protect the covered and uncovered population from widespread variations in wages.

Following the neoclassical assumption of clearing markets, the pay gap between two sectors of the economy, one where employees are covered by collective bargaining and one where it is not the case, should have consequences for the more regulated sector (public sector) as the pay offered in this sector cannot reflect local amenity and cost of living levels. In areas where the pay for the public sector is uncompetitive, the public sector will incur indirect costs. One of those indirect cost might be the inability for the public sector to attract workers, therefore this should imply shortages of staff. The gap between the public sector and the private sector pay should give a monetary value to this extra cost. At the other end of the pay gap distribution, where it is more competitive for the public sector, a null indirect cost for the public sector would be expected. Hospitals in those areas would not have to overcome an extra burden, they would not get an extra advantage either. The effect of the pay gap is therefore expected to be non linear. Hospitals are expected to suffer an extra cost where pay is non competitive and nothing where pay is competitive<sup>1</sup>.

The public sector is expected to be more subject to a greater incidence of the union/collective bargaining than the private sector. Therefore the public sector should exhibit less geographical pay dispersion than the private sector.

## *3. Empirical evidence of the impact of pay gaps on public service*

This section reviews in details the small number of articles found that bring together geographical differences in pay and their impact on the public service.

### *Pay settings*

In the UK, since 1983 nurses pay has been set by a pay Review Body which makes recommendation to the government based on interviews, analysis and research of representing bodies of the employees and

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<sup>1</sup> At at the other end of the pay gap distribution, the private sector pay may not be competitive compared to the public sector and the impact of this on the private sector could also be investigated.

the employers as well as the Department of Health itself. The Review Body makes recommendations on the pay increases for all staff and also some specific increase for groups of staff which are judged difficult to recruit and retain.

The pay structure for teachers in England and Wales has pay bands with pay rates set at different levels for different areas. Pay differs according to whether the teacher works in London, Outer London, the Fringe area and the rest of England and Wales. These different pay bands compensate teachers for local differences in amenities and cost of living.

This way of setting pay, for both nurses in the UK and teachers in England and Wales, is called quasi arbitration, it is not a collective agreement and different from the way pay is set in France for the public sector.

In the UK as a whole the role of collective bargaining went down from 71% in 1980 (Traxler and Brandl, 2011) to 35% in 2000. For the private sector only a quarter of the employees of this sector are covered by a collective agreement, of which only one out of ten are covered by a national collective agreement (Machin and Manning, 1994). Because pay is set by firm or workplace agreements in the private sector Metcalf et al. (2001) conclude that the private sector pay dispersion is likely to be higher in the collective agreement sector now than it was before. The assumption that there is a clearing labour market in the private sector holds in this country.

In France, the pay structure for the public sector is negotiated between the government and unions. Pay increases have been agreed by the government unilaterally for the last 10 years (Meurs and Edon, 2007). Most employees are covered by a collective agreement in the private sector, the proportion was at 95% in 2000. Therefore the assumption that there are two sectors, one for which there is a market clearing system and one for which the pay is not set at the market rate is not possible.

### *Estimating pay gaps*

In order to assess the pay variations across geographical areas and to compare those variations across sectors, all articles reviewed here compute wage equations. These wage equations are like the following:

*Equation 1: Equations for SSWDs estimation*

$$\begin{aligned}\ln(\text{wage}_{ik}^{PR}) &= \alpha + \beta * X_{ik}^{PR} + \sum_k \gamma_k^{PR} * \mu_k^{PR} + \varepsilon_{jk} \\ \ln(\text{wage}_{ik}^{PU}) &= \alpha + \beta * X_{ik}^{PU} + \sum_k \gamma_k^{PU} * \mu_k^{PU} + \varepsilon_{jk}\end{aligned}\quad (1)$$

Where PR stands for employees in the private sector and PU stands for employees in the public sector.  $\text{wage}_{ik}^{PR}$  is the wage for employee i in the private sector in area k,  $X_{ik}^{PR}$  is a vector of characteristics for these employees<sup>2</sup>.  $\sum_k \gamma_k^{PR} * \mu_k^{PR}$  is the sum of parameters for all minus one area in the specified country. Each  $\gamma_k^{PR}$  is a Standardised Spatial Wage Differential (SSWD), it measures by how much different the pay for employees in the general labour market in this area is with a reference. Usually, data for more than one year is used to compute SSWDs. It is unlikely that the the labour market would clear in the short run, and using more years make the estimations not sensitive to short term shocks that may appear in the labour market.

Then, the vector of parameters for all the areas are extracted as defined in Equation 2 (below).

*Equation 2: Vectors of SSWDs estimated from the wage equations*

$$\Gamma_{PR} = \begin{pmatrix} \gamma_1^{PR} \\ \vdots \\ \gamma_k^{PR} \\ \vdots \\ \gamma_n^{PR} \end{pmatrix}; \Gamma_{PU} = \begin{pmatrix} \gamma_1^{PU} \\ \vdots \\ \gamma_k^{PU} \\ \vdots \\ \gamma_n^{PU} \end{pmatrix}\quad (2)$$

Where PR and PU are defined as before. Then gaps between two vectors are computed, one difference for each group of staff. They measure the competitiveness of pay of the public sector employees.

*Equation 3: Computing the gaps for the nursing groups of staff*

$$\Delta = \Gamma_{PU} - \Gamma_{PR}\quad (3)$$

Where  $\Gamma$  is a vector as defined in Equation 1. If  $\Delta$  takes the value 0.1, then it is interpreted that the pay for public sector workers in this area is 10% more competitive than the reference. The reference is set at the national average by centring the gaps.

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<sup>2</sup> The vector of individual characteristics will depend on the data used to compute the wage equations. This depend on the article studied and will be make clear for each piece of research.

#### 4. Measuring the impact of pay gaps on the public service

All the articles reviewed will then estimate an equation that is similar to the following one:

*Equation 4: Estimating the impact of the competitiveness of pay on the public services*

$$PublicService_k = \eta_1 + \eta_2 * \delta_k + \eta_3 * X_k + \epsilon_k \quad (4)$$

Where PublicService is a measure of the public service delivery or of the indirect cost that the public service should incur following the impact of an uncompetitive pay. PublicService will be a measure of the shortage of staff (Elliott et al., 2006; Elliott et al., 2007; Elliott et al., 2009; Ma et al., 2009; Jean-Baptiste Combes et al., 2012) or an outcome measure (Propper and Van Reenen, 2010).  $\delta_k$  is the pay gap for area k. X is a vector of characteristics, this highly depends on the different articles. One refinement of this equation includes testing the non linearity of the impact of the pay gap.

##### *Impact of pay gaps on the NHS*

Four pieces of research have investigated the impact of pay gaps as defined above on hospitals in the UK.

Elliott et al. (2006, 2009) compute SSWDs for nurses and doctors and SSWDs for the general private labour market. Data for pay for nurses and for the private sector employees comes from the Annual Survey of Hours and Earnings (ASHE). ASHE data is provided by employers and is therefore very reliable. They use data for the financial years 2002-03 to 2004-05. When estimating wage equation following equation 1 the author control their estimations by age, age square, gender, year and for the private sector SSWDs they use industry and occupational dummies. They use vacancy rates as measures of shortages for all hospital trusts. The data is from the *NHS vacancy survey* which interrogates all English hospital trusts. The pay data for doctors is the pay bill for each hospital. Though this data could be considered as more reliable it only provides pay as an average for each hospital and not the pay for each doctor, therefore SSWDs for doctors are not calculated following equation 1, SSWDs for doctors are just average pay at the hospital level. This does not allow to control for doctors characteristics such as age and age square or gender<sup>3</sup>.

They compute pay gaps between the nurses SSWDs and the SSWDs for the general labour market and they find that in areas where the pay gap reflects uncompetitive nursing pay, hospitals have higher

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3 A standardisation is done for the doctors pay based on the average number of women in the hospital and the average age.



nursing vacancy rates. They also compute pay gaps for doctors and they find that, on the contrary, where the doctors pay is uncompetitive, the vacancy rates for doctor is lower.

Elliott et al. (2007) focused on qualified nurses and midwives using data for 1999-2002. They use the Quarterly Labour Force Survey (QLFS)<sup>4</sup>. They compute a switching regression model to control for the choices to work in the NHS or in the private sector when computing SSWDs. They use data on family characteristics (household income, property owner, illness or disability for members of the family, number of children, provision of parental care, age, ethnicity, education of family members) to compute the switching equation (the choice to work for the NHS) as those variables are sometimes argued to be uncorrelated to pay but related to the decision of work. The authors in this paper focus on nurses and midwives and on a comparator group defined as female employees working in an occupation in the private sector which contained at least one employee with a nursing education for England, Scotland and Wales. Vacancy data, for this article, is available at the Health Authority level. They find that selection significantly affects the estimation of SSWDs. They also find, as in Elliott et al. (2006, 2009) that when the competitiveness of the nurses pay is higher, the vacancy rate of health authorities is lower.

The empirical research conducted by Elliott et al. (2006, 2007, 2009) confirms an impact of local pay gaps on local variations in nursing shortages. However, it is not clear how the result for doctors found in Elliott et al. (2006, 2009) is to be interpreted. The authors conclude that doctors may be attracted by other (unobserved) characteristics.

Propper and Van Reenen (2010) examine hospital quality using Acute Myocardial Infraction (AMI) rates (heart attacks) for English hospitals for patients aged 55 and over. They used the death rate within the 30 days of an admission following an AMI. The authors argue that hospital quality is affected by the external wage that nurses could have get had they not worked for the NHS. The authors uses three “outside” wages, one is reviewed here.

The outside wage is calculated using the Labour Force Survey between 1996 and 2007. They run a regression on the ln of wages for non manual female workers (excluding nurses and teachers). They control for regions and year and all individual characteristics available from the LFS (qualifications, ethnicity, country of origin, marital status, number of children...). They use the parameters for the area-year dummies as their outside wage. This is slightly different from Equation 1 in that respect that it is only run for non nurses and non teachers female workers and that it is not used to compute wage gaps as in Equation 3 but used directly assuming the the public sector pay dispersion is flat across the country.

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<sup>4</sup> In the UK, two datasets provides data on wages. The trade off between the two is that the QLFS is rich in terms of workers characteristics but wages are self declared while the ASHE data provides very reliable wage data and scarce individual characteristics. In Elliott et al. (2007), the authors need more individual characteristics than what ASHE would be able to provide.

The authors regress the private sector wage as defined in the paragraph above on the hospital performance using panel data. Panel data allows for hospital fixed effects along with measures of case mix. The case mix includes the degree of ill health of the population from which each hospital draws its cases<sup>5</sup> and the age gender distribution of the admissions for AMI<sup>6</sup>. They also control for hospital size and hospital type<sup>7</sup>. Case mix and AMI rates were obtained from the Hospital Episodes Statistics (HES). They run pooled OLS, between, within and GMM estimations. The authors use the panel estimation to treat the wage as endogenous. They use the within and between information as akin instrumental variables. They find a positive and significant relationship between the wage and AMI giving evidence that hospitals with higher outside wages incur unavoidable costs that are reflected in higher AMI rates.

The authors argue that the effect of the outside wage should not be linear and there might be a larger effect in higher outside wage regions than in lower outside wage regions. Thus they ran three different regressions on three regions. Each region is defined as having a different level of outside wage regions (low, medium and high)<sup>8</sup>. The effect of the wage remains significant only in regions with a high outside wage. The main result is that an increase of 10% of the private sector wage imply an increase of 15% of AMI mortality rates in high wage regions, 8% in middle wage regions and 1% in low wage regions.

#### *Impact of pay gaps on shortages of teachers*

In further research into the impact of local wage differences on public sector performance Ma et al. (2009) provide an analysis of the impact of the pay gaps between the public and the private sectors on school's teachers vacancies in England and Wales. This report intended to inform the deliberations of the School Teachers Review Body. This body is responsible to the government for the pay structure and pay awards for teachers working in Local Authorities maintained schools in England and Wales. The report was commissioned to review the appropriateness of the different bands. The report used a similar method to the one in Elliott et al. (2006). The authors calculated Standardised Spatial Wage Differentials (SSWDs) to compute pay gaps between the public (teachers) and the private sector. They used data for 2004 to 2007. Pay data was taken, as in Elliott (2006), from the Annual Survey of Hours and Earnings. They used data on school teachers vacancy rates provided by the two countries, England and Wales. The data differ in the two countries. For England, data was extracted from the *School Workforce in England* which is a publicly available dataset that reports results from an annual survey carried out in all Local Authority maintained schools. Vacancy rates are reported for qualified and unqualified teachers together, though the authors note that “when schools advertise vacancies they advertise for qualified teachers” (page 34). The authors find a positive relationship between the SSWD gap and the teachers vacancy rate in

<sup>5</sup> This is captured by all-cause time-varying mortality of the area around hospitals.

<sup>6</sup> The authors also use the severity of AMI in robustness checks.

<sup>7</sup> Acute or teaching hospital trusts.

<sup>8</sup> The high wage region is London and the South East, the low wage is the South West and North East.

England. The result is robust for secondary schools teachers. Though the marginal effect is very small, for an increase of half a standard deviation of the gap, the reduction of vacancy rate is estimated at 0.09%, the effect is significant. To test for the robustness of this result they introduced the share of unqualified teachers. Unqualified teachers pay is not set by the pay review body, it is set locally and therefore more likely to be set at a rate which compensate for local amenities and cost of living. They find that the share of unqualified teachers is negatively correlated with vacancies. Therefore, unqualified teachers might be used to substitute for qualified teachers and the school may therefore not report the post as vacant any more. For Wales the results are similar but the number of observations is much lower and therefore the results are not significant.

### *Impact of pay gaps on French hospitals*

In a working paper (Jean-Baptiste Combes et al., 2012) the author and colleagues are analysing the impact of the wage gaps between the public hospital sector and the private for profit non hospital sector in France<sup>9</sup>. In France, the collective coverage is at 95% of the whole employee population (Traxler and Brandl, 2011). Thus there is a clear interest in investigating this country as there are not two sectors of the economy, one with employees covered by collective agreements and one for which employees are not covered. However, the strategy is similar to the papers above. Two wage equations are used (as in Equation 1), one for the public employees and one for the private employees for two groups of nursing staff, nurses and health care assistants<sup>10</sup>.

Data on hospitals comes from the “Statistiques Annuelles des Etablissements de Santé” (SAE) which is a dataset available from the French Ministry of Health<sup>11</sup>. This data gives information on all health care premises (“Etablissement de santé”) in France. Completion of the SAE is a legal requirement, and thus this data is exhaustive<sup>12</sup>. Data from the SAE were linked to data from the “Déclarations Annuelles des Données Sociales” (DADS) which is an administrative data set which gives details of the pay and employment of all employees in all firms in France. Each year all companies are required to provide the fiscal and social authorities with the names of all the employees during the past year and to provide information on their sex, age, address, hours worked, position, qualification and the pay they received. The National Institute of Statistics and Economic Studies (INSEE, Institut National de la Statistique et des Études Économiques) check and validate the data. Data from three years are used, 2006 to 2008.

There is no direct measure for shortage of staff in France, only an indirect measure could be computed. We measured shortages of staff by dividing the current number of whole time equivalent employees in

<sup>9</sup> We also computed gaps defined as the pay for the hospital public sector minus the pay for the hospital private not for profit and for profit.

<sup>10</sup> Infirmiers et aides-soignants.

<sup>11</sup> <http://www.sae-diffusion.sante.gouv.fr/> accessed the 18<sup>th</sup> of April 2012.

<sup>12</sup> <http://www.sante.gouv.fr/statistique-annuelle-des-etablissements-sae.html> accessed the 18<sup>th</sup> of April 2012.

each hospital by a measure of size. Then in regressions analysis, this measure of standardised staff numbers was controlled by hospital characteristics<sup>13</sup>.

The results provide some evidence of the impact of wage gaps on shortage of staff mainly for health care assistants. In areas for which the pay gap for health care assistants is more competitive, the shortage of health care assistants is lower. The same result is not found for nurses. Yet, the pay gap for health care assistants has an impact on the shortage of nurses.

This section highlighted the evidence from the literature on the impact of pay gaps on public services. It shows that pay gaps have an impact on shortages of nursing and midwives (Elliott et al., 2006; Elliott et al., 2007; Elliott et al., 2009) in the UK, on shortages of teachers in England (Ma et al., 2009) and on shortages of health care assistants in France (Jean-Baptiste Combes et al., 2012). Finally, Propper and Van Reenen (2010) gives evidence of an impact of uncompetitive pay for hospitals in the UK on outcomes as measured by AMI mortality rates.

## 5. Discussion

These articles all have in common to start their research from the neoclassical assumption also presented here that it is the public sector pay that is departing from the market rate of pay. By doing so the authors can present their research in a conceptual framework that paves the way for the empirical analyses and for the discussion. Here is discussed this representation of labour markets. The conclusion will then discuss implications of the results at the political level.

Georges Osborne, chancellor of the Exchequer for the UK since 2010, along with the liberal think tank CentreForum have argued (Wintour, 2012; Wolf, 2010) that where the public sector pay is above its private sector counterpart, it is the public service pay that is detrimental to the private sector competitiveness. They argue that the public sector should have a pay that is mapped to the pay in the private sector. From a neoclassical perspective, the research presented here is bringing more evidence to the arguments of Osborne and the CentreForum. Not only the public sector pay is detrimental to the private sector competitiveness, as they argue, but it also has impacts on the public sector itself.

Analysis of markets in the neoclassical model is mechanistic, abstract and reveal a natural order (Bazzoli and Dutraive, 2004). The properties of markets as described in the standard theory are supposed to reveal the functioning of any type of markets. Neoclassical economics pretends that there is one single type of markets for which all markets should conform to. On one hand, any institution that would impede markets to work fully are perturbing the full market. On the other hand, if those institu-

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<sup>13</sup> Full details are available in the paper.

tions are not impeding markets they are assumed to be part of a natural and external rational framework.

Another tradition in economics has put forward the idea that markets are not standalone bodies that exist outside of institutions and political struggles. Two American (USA) economists analysed economical systems in light of what would be called later the institutionalist view: Veblen (1914) and Commons (1924).

In this tradition, labour markets and more generally markets are not unique. In that respect the private sector labour market in the UK and in England is just one labour market for which the level of collective bargaining is very low. This is the case not because an invisible hand has shaped the labour market in this way but because of power relationships, evolution of law (abolition of wage councils during the eighties) change of practices.

Institutional economics distinguishes between markets at the systemic level and distinctive markets which have their own way of functioning. The standard theory analyse the markets for money, labour, land, finance and goods as just other types of markets which would exchange a certain type of goods. Though, as noted by Polanyi, as cited in Bazzoli and Dutraive (2004), the monetary and the labour market are markets for which the commodities are fictitious. This implies that labour markets, exchanging hours of labour for a price, is a consequence of transforming the hour of work in a commodity that would be exchangeable. This could only be done if workers, peasants had lost their mean of production, had it not been the case they would have no incentive to sell their labour on the labour market.

Following Durand (2010), we make a slight detour to goods markets. Global goods markets emerged in the 17-18<sup>th</sup> century as a consequence of the asymmetry of information between the global retailer and the seller. Sellers and final consumers are not aware of the supply and the demand, only the retailer is and because retailers have this information they can trade and make a profit out of it. This example provides some evidence that the emergence of markets is not a consequence of a natural order in which sellers and buyers would meet, the market will process and a unique price would emerge. It is rather the opposite, goods markets emerged from the ability of retailers to make a profit based on the asymmetry of information. Because of this asymmetry of information, retailers can help make the supply and demand meet. Therefore, the supply and demand are able to exchange on the market because there is an asymmetry of information.

The English labour market was created by a set of factors. For Durand (2010), the labour market was created at the periphery of the economy. Peasants were removed from their land following the enclosure movement which implied that all land had to have an owner. Therefore peasants could not use the land

for farming as it became the property of one individual (Norel, 2009). Those evicted peasants would then be able to sell their labour force on the new labour market in towns. Labour was highly demanded by those new industries that were benefiting from new sources of income coming either from the slave trade, or from the monopoly England had on trading with India through its Eastern Indian Trade Company. Bourgeois and craftsmen had formed an alliance against aristocrats. Craftsmen were part of a guild meaning that they would organise the labour market for their professional skills. Just after the French revolution in France and in 1812-1814 in England this alliance was broke up. Guild were forbidden and over a century craftsmen would lose their means of productions. From that time on, workers were free to sell their working skills on a free labour market: an hour of work became a commodity that one could exchange against a wage.

This short and partial history of markets and labour markets in England reveals that, with time, workers lost their means of production, first by loosing their land, and then by the professional associations being abolished. Therefore, there is not such thing as a natural order for markets and even more for labour markets (Sharfman, 1925).

Though thee results presented here provide some evidence that conflicting wages within a same areas will have consequences on the public sector. Economists, institutionalist or neoclassical, may all wish to see this labour market problem be solved.

From a neoclassical perspective, an unregulated private sector labour market should be the rate of pay that dictate the rate of pay to the regulated labour market because the former is the rate that would compensate completely for amenities and cost-of-living.

From an institutional perspective, the conclusion is really up to political decisions. There is not a normative approach to setting pay, each process, regulated and unregulated labour markets, are the results of historical and political battles. No institutional process of setting pay is more efficient or fairer, a priori, than another. Though, institutionalist economists tend to emphasize that a fair solution would only come out had the society allowed all individuals to have a similar share of power (Kaufman, 1997).

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