WORKERS’ EARNINGS IN THE UK BEFORE AND AFTER PRIVATISATION: A STUDY OF FIVE INDUSTRIES

Preliminary version

ORIETTA DESSY AND MASSIMO FLORIO

Università di Milano
Dipartimento di Economia Politica e Aziendale
Via Mercalli, 23 – 20122 Milano
orietta.dessy@unimi.it, massimo.florio@unimi.it

Abstract

In this paper we give new evidence on the impact of British privatisation on wages in selected industries. We compare trends in the privatised firms and in the economy as a whole. We construct long time-series of different measures of labour earnings, spanning from 1970 to 2002. The source is administrative data on labour earnings taken from the New Earnings Survey (NES), an individual panel survey carried out at the Office for National Statistics (ONS) and used as the official source for annual publications on labour earnings by industries (three digits) in the UK. While mainstream privatisation theory has suggested that under state ownership workers earned high wages because of unionisation and soft budget constraints, we do not find any evidence of decline of relative wages after privatisation. We discuss possible interpretations.

Keywords: Privatisation, United Kingdom, Workers’ earnings, Gas, Electricity, Water, Railways, Air transport.

JEL NUMBERS: J31, L33, L92, L93,L94.
1. Introduction

The interest in trying to evaluate the impact of privatisations in the labour market is well justified by the fact that in any privatisation experience the reform of labour management and industrial relations has been of prime importance. This is particularly true for the UK experience, the first and probably still the most relevant example of privatisations (Heald and Steel 1986; Vickers and Wright 1988; Vickers and Yarrow 1988; Florio, forthcoming).

Focussing on the UK, most of the early research was devoted to the analysis of industrial relations processes and institutions, in particular organisations immediately prior to, during and just after privatisation (Colling 1991; Ferner 1990; Blyton 1993; Turnbull 1993; Ferner and Colling 1993; Forrester 1993; O’Connel Davidson 1993; Ogden 1992, 1993). These studies showed a general tendency towards decentralisation of collective bargaining structures, but said little about outcomes such as changes in pay levels and employment.

This issue instead is particularly relevant, since much of the debate on the desirability of privatisation has centred on wage and employment outcomes, believing that a natural consequence of privatisations was a reduction of both. The advocates of privatisations were convinced that public ownership caused ‘overstaffing’ and ‘inflated’ levels of pay. On the other hand, trade unions were fearing that privatisations could drastically reduce workers bargaining power and therefore levels of pay and benefits.

A theoretical background for the negative consequences of privatisations on the labour market can be found in property right theories, according to which private ownership transmits greater efficiency incentives to the management and workers than public ownership. Since the aim of the owner of nationalized firms is not to maximise profits, but to achieve a jumble of political objectives, the management is not provided with clear incentives to minimise costs. Private owners instead, being able to appropriate profits, can adequately motivate management to minimise costs, including labour costs. Implications in terms of the crucial variables of labour markets are clearly a reduction of both employment and wages, ceteris paribus.

In this paper we study the impact of privatisation on wages. In this case the empirical evidence from the received literature is mixed. Some early commentaries on industrial relations (Thomas 1984) documented a number of cases where wage cuts and deterioration of working conditions accompanied privatisations (Trade Union Congress 1986; McCarthy 1988). But some other studies seem to find the opposite. Bishop and Kay (1993), Haskel and Szymansky (1992, 1993), Martin and Parker (1997) all conclude that privatisation did not alter the position of the average wages of workers, with respect to the manufacturing sector, or the services industry, or the averages for the
economy as a whole. In addition, Bishop and Kay (1988), and Cragg and Dyck (1999) find that salaries of top management recorded sharper increases in the privatised firms than in the rest of the companies.

We believe that most foregoing studies of the impact of privatisations on the labour market are flawed in two important aspects. First, they use very short time series, especially for the post-privatisation period, which makes quite difficult to distinguish transitional from permanent effects. Second, aggregation of average results for workers of different ability, in particular skilled and unskilled workers.

In this paper we give new, original evidence on the impact of privatisation on wages, and follow the approach of comparing privatised firms with the economy as a whole in an attempt to identify the specific effects of privatisation. We construct long time-series of different measures of labour earnings, spanning from 1970 to 2002. The source is administrative data on labour earnings taken from the New Earnings Survey (NES), an individual panel survey carried out at the Office for National Statistics (ONS) and used as the official source for annual publications on labour earnings by industries (three digits) in the UK.

Importantly, the information available allows us to consider separately manual and non-manual adult male workers employed in five sectors, particularly interesting for their privatisation processes: gas, electricity, water supply, railways, and air transport. Also, the construction of series covering more than thirty years permits considering a sufficient number of years before and after privatisation for each sector, which allows to compare on an homogeneous basis different experiences of change of ownership.

The evidence shown in this paper seems to support the view that the impact of privatisation on wages is different from what expected from the implications of property right theory. The stylised facts from our source of data do not seem to confirm the prediction that the management of a privatised industry has always a greater incentive to control labour costs than the management of a public sector. More precisely, this certainly does not seem to happen through a general reduction of wages, and neither manual nor non-manual workers staying in the same privatised sector seem to loose from the change of ownership process.

At this stage of our research we are unable to assess whether a reduction of labour costs is implemented through a strong reduction of employment. However, existing evidence on employment dynamics in some privatised sectors (Florio, 2004, ch.6 for a survey and Florio, 2003, for the British Telecom case-history over 40 years) shows that employment reductions started much earlier than the actual change of ownership, and therefore can hardly be considered as a direct consequence of privatisations.
The structure of the paper is the following: in Section 2 we motivate our analysis, clarifying the theoretical implications that we aim to test; Section 3 summarises previous evidence on the impact of privatisations on wages; in Section 4 we describe our source of data. We then present our results, and the final Section concludes.

2. Motivation

According to standard privatisation theories based either on property rights or on public choice approach labour costs need to be excessive in a state owned enterprise (SOE).

The stylised facts proposed by these theories, reviewed by Martin and Parker (1997), and Mueller (2003) suggest the following story.

First, governments implement SOEs for objectives that differ from profit maximization. These objectives, even when presented in terms of social welfare, in fact are those of specific individuals who are the actual stake-holders of the SOE. Politicians have their private agenda that usually includes the maximization of probability of re-election. Hence, ministries and members of parliament collude in offering to SOEs capital for new investment, or subsidies to cover losses, under the implicit contract that, whatever the statutory official objectives of the public enterprises, they should act in such a way as to implement the politicians’ agenda. The managers of the SOE, who are often depicted in this framework as the agents of their political principals, have private information and can extract rents for themselves in various forms (salaries and other benefits, corruption), but must deliver the expected result in terms of politically useful actions. While these may include low tariffs in order to bribe the consumers, a typical target of consensus building are public sector employees. While the former are a large but dispersed constituency, the latter is a more concentrated target. Politicians and SOE executives will collude in aiming at excess employment and excess wages because for the former there are political rents attached, and for the latter there are money rewards.

Thus, if the politicians get more votes by large numbers of excessively paid employees in SOEs, and the compensation of the executives is a function of number and wages of the employees, there is wide room for inefficiency. Sometimes this story is supplemented by the observation that even a benevolent, welfare-maximiser government has a jumble of policy objectives, quite often contradictory, and this does not give the right cost-minimization incentive to managers.

There are many possible variations in the way this story has been told and this is not the place to review all the models that have been presented to explain the perceived inefficiency of SOE.
The change from public to private ownership, in the convergent property rights-public choice perspective, should have foreseeable consequences in terms of the quantity and remuneration of labour. Politicians are now replaced by an appointed regulator who has no interest in elections, and that has a relatively narrow mandate to supervise the industry. Managers have a new principal, the shareholder, who has an interest in profit maximization. Under this new structure of incentives, the managers compensation will be a function of profits (for example through stock options schemes). Thus, cost minimization will follow. Incentive theory may offer a more complex insight in this new framework of principal-agents relationships, but the property right-public choice view may maintain that even if there are still informational asymmetries and rents involved in the new setting, it will definitely be more efficient than under state ownership.

When we translate all this in testable predictions, there are simple propositions that allow themselves to empirical testing. For example:

a) if the SOE maintains higher employment than it is necessary for cost minimisation, after privatisation – ceteris paribus - we should observe a reduction in the number of employees, for the same amount of output;

b) if salaries are too high in SOE, after privatisation they should fall in real terms;

c) labour effort and organisation should improve after divestiture;

d) the achievement of results in these three directions could necessitate action on the part of the management to reduce the power of trade unions within privatised firms, and we should be able to observe a decline of unionisation;

Lastly, one can ask what effects large scale privatisation may have on the labour market as a whole, for example through the indirect effects linked to the changing role of trade unions, reduction in personnel, containment of salaries, etc. According to standard macroeconomic theory, as argued in Florio and Grasseni (2003), privatisation may be seen as a positive shock on aggregate supply, thus increasing output and employment.

Having said this, in this paper we wish to use privatisation as a natural experiment to test a simple version of question (b): whether it is true that workers in SOEs enjoy a rent in the form of excess wages and this rent is wiped out or decreases with privatisation.

We define excess wages as workers’ earnings (per hour or per a convenient unit of time) that is higher than the reservation wage, or the money disutility of labour. Under labour market clearing equilibrium the reservation wage cannot systematically
differ from the value of the marginal product of labour, except for specific characteristics of the individuals and the industries. Thus, we use the average wage per similar categories of workers (males, skilled and unskilled) as our benchmark, and we test what happens to different measures of workers’ earning before and after privatisation in specific British industries.

The aim of our paper is not to try to assess the effect of privatisations per se, which would require predictions of how the industries would have performed had they not been privatised, while all the other changes occurred. Consequently, it is only feasible to calculate the effect of observed changes before and after privatisation, while comparing the effects in the privatised sectors with other sectors to control for macroeconomic changes in the economy. This is the approach followed in most of the existing literature, surveyed in the next section.

2 Some earlier contributions.

The theoretical implications concerning wage and employment dynamics derived from the property right theories have been empirically tested in literature concerning the UK using firm-level data.

Salama (1995) claims that between 1970 and 1983 wage increases in nationalised firms in the UK were higher than those in the private sector, but without a corresponding increase in productivity.

This dynamic would appear to be confirmed looking at the period 1979-88, and its effects would appear to extend also to the workers and not only to the top management. Several studies confirm this evidence: for a survey see Pendelton (1997).

Detailed data on eleven companies can be found in Martin and Parker (1997), where they show wage level in the period before and after privatisation, standardised with the wages of the manufacturing sector or with the averages of the economy as a whole. These data show that, with the single notable exception of British Steel, privatisation did not alter the relative position of the average wages of workers employed in the firms considered. Wages in the majority of cases are higher at the end of the period than they were under public ownership. This may partly be attributed to the reshuffling of positions among different layers of the workforce.

The data we have cited seem to contradict the prediction that the change of ownership implies a removal of possible ‘rents’ attributed to the workers. Either these rents did not exist, in the sense that high salaries somehow reflected differences in productivity when the firm was publicly owned, or the rents existed and have been perpetuated under private ownership, despite the weakening of the trade unions. A study
by Haskel and Szymanski (1994) confirms in fact that market share does influence pay in privatised companies.

A separate point raised by Martin and Parker concerns the ratio of wages on turnover, or rather the relative position of wages, on the one hand, and profits and interests on the other. Here we observe a tendency for the share of wages to fall, while the share of external inputs rises, and above all the remuneration of own and third party capital rises as well.

The increase in company profitability is a question that should be dealt with separately. It is, however, important to note that while privatisation in itself did not reduce employment or wages, the increase in profits may derive exclusively from either an increase in labour productivity that has not been translated into a corresponding increase in wages (perhaps also due to the weakening of the unions) or, in the absence of clear evidence of growth in productivity, from an increase in prices relative to costs.

The phenomenon described above may not concern specific sectors in which the cost of labour is the result of particular situations. Pendleton (1999) gives some evidence of reduction in wages regarding the system of franchising of the London buses, and more generally the bus industry.

Boyfield (1997), and Cragg and Dyck (1999) focus on managers’ compensation. According to Boyfield (1997) the salaries of Board members of the utilities (British Telecom, British Gas, RECS, Powergen, National Grid) incurred a nominal increase of 600% from before privatisation to 1996. According to the author, however, this simply shows that the average pre-privatisation salary was below market rewards. Cragg and Dyck (1999) find evidence of convergence of top executive pay in the privatised companies and in a matching sample of publicly traded firms. Since apparently the boards of privatised companies were to a large extent formed by the same personnel that had been recruited under public ownership (at least for some years following privatisations), it is hard to believe that those managers accepted low-paid jobs in the public sector because less productive than their private counterparts, and unable to find better paid jobs.

To sum up: earlier research offers mixed evidence and as far as we know did not offer an analysis based on sufficient long time series. Quite often the comparison in labour conditions in the privatised industries is limited to some years before and some years after privatisation. Moreover, most papers do not attempt to examine wages for different types of workers and for different industries in a systematic way. We propose to improve on the existing research in three ways: first we consider data for more than 30 years, in order to control for short-run shocks; second, we consider different types of
workers and earning measures; third, we examine comparable data for five nationalised/privatised industries.

3. Data

For analysing earnings dynamics we have built an appropriate data-set, based on the annual publications “New Earnings Survey: analysis by industry, Part C”, available at the Office of National Statistics (ONS). In this publication are reported a number of tables on earnings and their structure, based on a panel of individuals, constructed in 1970. The panel consists of a 1:100 sample of workers, selected according to a random based on the last two digits of the national insurance number. The information required in the questionnaire is given directly and compulsorily from the employer, and is taken from payslips. This implies that (differently from individual survey panel data) wages and their components are not rounded, or misreported. Moreover, since the questionnaire is asked every year, there is no attrition in the data. People exit the panel when become unemployed, but re-enter when they find a new job since the new employer can be contacted. Every year, the ONS updates the panel according to the national insurance number. The cross-sections that we consider in this paper therefore take into account turnover mechanisms in the labour market.

The information about individuals allows to study separately men, women, manual and non-manual workers. The breakdown by sector at two and three digits level lets us identify quite precisely five sectors that have been privatised during the last twenty years in the UK: gas, electricity, water supply, railways and air transport.

The information on earnings in the NES panel covers total labour earnings and their components: base-wage, overtime, bonuses, and other elements more or less linked to the firm’s performance. Moreover, we know the number of hours worked (base and overtime), industry, occupation, age, sex, nationality, etc.

The tables published in NES-Part C report different measures of earnings and hours, aggregated at the industry level. They are all referred to gross earnings, i.e. wages paid by the firm before any deductions or taxes, excluding non-ordinary payments such as costs remuneration or pay for holidays not referred to the period considered, that usually is specified in the questionnaire.

The population considered in official publications is full-time employees. This ensures the exclusion from the sample of employees not paid according to adult rates. For men, to whom we restrict our analysis, working age is fixed in the majority of contracts at 21 years.

For each sector considered, the tables that we have collected give the following values:
• Number of observations
• Average weekly earnings, for two sub-samples according to the fact that workers whose wage can be affected by absence\(^1\) are included or excluded
• Average hourly earnings. Since in the NES overtime pay is reported separately, we have two measures of hourly earnings: one including and the other excluding overtime. Since this last measure is constructed dividing total earnings minus total overtime earnings by the total number of hours paid net from overtime hours, this last measure can be considered a precise evaluation of the base wage.
• Average number of weekly hours, divided in base hours and overtime hours. It is important to notice that we have information only on the number of hours paid, that do not necessarily correspond to the number of hours worked.

The time period covered by our data spans from 1970 to 2002.

4. Results

In this Section we present some descriptive results relative to the time series that we have constructed. In particular, we focus on the impact of privatisations on wage-levels paths, considering different measures of wages (weekly and hourly), and different sub-samples (including or excluding absence effects).

Earnings for each sector are normalised with respect to the level of corresponding measures of earnings in all the industries and sectors of the economy, therefore we analyse relative earnings’ dynamics\(^2\).

Figures 1-8 report relative earnings separately for the five sectors considered. The first 4 figures show weekly earnings, the following hourly earnings. Each measure is reported first for manual and then for non-manual workers. Moreover, in each graph and for each sector, a bar has been inserted in correspondence of the year when the sector has been privatised.

Looking at Fig.1 we can see that wages paths are different across the sectors considered, with respect to the whole economy, although they seem generally to grow during the last thirty years. As long as the impact of privatisations is concerned, we can see that in sectors such as gas and air transport wages were growing already at least one year prior to privatisation. In the other sectors (electricity, water, rail transport) instead

\(^1\) By absence in this context we mean a period of interruption of work due to many possible reasons (illness, volunteer absenteeism, etc…).

\(^2\) Probably considering only the services sector for the normalisation would have been more precise, but the unavailability of this measure for the first fifteen years let us prefer the most aggregate measure available in order to have homogeneous results.
the year of privatisation seem to mark a clear change, opposite than expected: wages, that recently were decreasing, seem to start growing persistently for at least three or four years.

Comparing Fig. 1 and Fig. 2 we than notice that, in all sectors excluding railways, this behaviour is very similar for manual and non-manual workers.

Fig. 3 and Fig. 4, in which absenteeism effects on earnings are excluded, show us more precise measures of weekly labour earnings. These basically confirm our previous results for manual workers. However, for non-manual workers the clear increase of wages post-privatisations seem to involve all the sectors considered.

For synthesising the impact of privatisations on wages we compare average labour earnings pre and post privatisation for each sector. Tab. 1 and Tab. 2 show, for each sector, the number of years observed pre and post privatisation\(^3\), and the number of observations for each category of workers on which are based our results. In the same tables we can read, separately for manual and non-manual workers, the average value of the two measures of wages in the interval of time considered. The results confirm a clear increase of average wages after privatisations, contrarily to the implications of property right theories. This result seem to be robust to different specifications of wage measures and of the sample of workers.

The same analysis has been carried out also for hourly earnings. We consider two measures, including or excluding overtime. The results are shown in Fig. 5-8 and in Tab. 3 and Tab. 4. As we can see, the behaviour of hourly wages is very similar to that of weekly earnings, although weekly earnings are more flexible than hourly wages. The positive effect of privatisations on labour earnings in all the sectors considered is confirmed on hourly wages.

5. Conclusions

Summarising, our results are the following:

1. Despite the pattern of relative earnings over time is extremely different across sectors, contrarily to the theoretical predictions we never observe reductions in earnings relative to the benchmark soon after the privatisation-period.

2. Considering a short time interval around the year in which each specific sector was privatised, labour earnings continue to rise in sectors where

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\(^3\) Although data have been collected for each year, it is worth noticing that some years for some category of workers are missing. This is due to the fact that results are published only for samples of at least 100 observations. Non-manual workers in the railways industry, in particular, present very few observations.
they were increasing and do start rising in sectors where, during the last few years, they were decreasing.

3. Over the long-run trend, no structural break is evident in correspondence of the year of privatisation in any of the sectors considered.

The above results are robust to different measures of wages (weekly, hourly) and different specifications of earnings (including/excluding overtime). Moreover, and quite interestingly, they are valid for both manual and non-manual workers.

Our results discard any simplistic prediction of relative wage decrease following privatisation in Great Britain and surprisingly suggest some evidence of the opposite performance. There are many possible interpretation of this result, and here we suggest three competing interpretations.

One possible explanation is that workers were actually earning excess wages under state ownership, and continued to enjoy rents under privatisation thanks to a regulatory framework that allowed the survival or even the increase of monopoly rents, partly shared between shareholders, managers and workers.

A second possible interpretations is that in fact there were no excess wages in the SOE, and their high level relative to the economy was a consequence of higher productivity levels in the industry we consider, and of labour market segmentation. Privatisation has reinforced this productivity pattern and this is why we observe increase of pay, instead of decrease.

A third possible explanation points to the decrease of employment and of the share of labour in value added of the privatised industries: the higher wages of the stayers in the industries are matched by a shift to procurement, and by lower wages in the contracted-out employment.

Further research is needed to establish which one of these (or other) alternative explanations is more compatible with observation. In any case, our findings suggest that any expectation that privatisation per se decreases relative wages is not supported by the British experience.
References


Trades Union Congress (TUC) (1986), Bargaining in privatised companies, London: Trades Union Congress.


Fig. 1 Relative weekly earnings of manual men, incl. abs.
Fig. 2. Relative weekly earnings of non-manual men, incl. abs.
Fig. 3 Relative weekly earnings of manual men, excl. abs.
Fig. 4 Relative weekly earnings of non manual men, excl. abs.
Tab. 1  Relative gross weekly earnings in selected privatised sectors: 1970-2002. Sample including those whose pay for the survey pay-period was affected by absence.

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<tr>
<th>SECTOR</th>
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<tr>
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Notes to Tab. 1:
1) The sub-sample considered in our table includes full-time males on adult rates whose pay for the survey pay-period was affected by absence.
2) Relative earnings are calculated dividing average gross weekly earnings for each sector by average gross weekly earnings in all industries and services.
3) Gross weekly earnings=Total gross earnings divided by the number of weeks in the pay-period.

Source: our calculations on ONS data, published in ‘New Earnings Survey Part C: Analyses by Industry’.
Tab. 2  Relative gross weekly earnings in selected privatised sectors: 1970-2002. Sample excluding those whose pay for the survey pay-period was affected by absence.

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Source: our calculations on ONS data, published in ‘New Earnings Survey Part C: Analyses by Industry’.

Notes to Tab. 1:
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Fig. 5 Relative hourly earnings of manual men, incl. ov.
Fig. 6 Relative hourly earnings of non manual men, incl. ov.
Fig. 7 Relative hourly earnings of manual men, excl. ov.
Fig. 8 Relative hourly earnings of non manual men, excl. ov.
Tab. 3  Relative gross hourly earnings, including overtime pay and overtime hours, in selected privatised sectors: 1970-2002.

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| MANUFACTURING |
|---------------|------------|-------------|--------------|-----------|
| N. of years obs.|         |             |              |           |
| Average n. obs. per year | 214 | 173         | 123          | 189       |
| Mean         | .984      | 1.059       | 1.228        | .991      |

| NON MANUAL   |           |             |              |           |               |               |
| N. of years obs.|         |             |              |           |               |               |
| Average n. obs. per year | 313 | 254         | 467          | 302       |
| Mean         | .984      | 1.059       | 1.228        | .991      | .880          | .890          |

Source: our calculations on ONS data, published in ‘New Earnings Survey Part C: Analyses by Industry’.

Notes to Tab. 1:
1) The sub-sample considered in our table includes only full-time males on adult rates whose pay for the survey pay-period was not affected by absence and for whom normal basic hours were reported.
2) Relative earnings are calculated dividing average gross hourly earnings for each sector by average gross hourly earnings in all industries and services.
3) Gross hourly earnings, including the effect of overtime pay and overtime hours = Gross weekly earnings divided by total weekly hours, for an employee whose pay for the survey pay-period was not affected by absence and for whom normal basic hours were reported.
Tab. 4  Relative gross hourly earnings, excluding overtime pay and overtime hours, in selected privatised sectors: 1970-2002.

<table>
<thead>
<tr>
<th>SECTOR</th>
<th>GAS</th>
<th>ELECTRICITY</th>
<th>WATER SUPPLY</th>
<th>RAILWAYS</th>
<th>AIR TRANSPORT</th>
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<tr>
<td></td>
<td>pre-priv.</td>
<td>post-priv.</td>
<td>pre-priv.</td>
<td>post-priv.</td>
<td>pre-priv.</td>
</tr>
<tr>
<td>N. of years</td>
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<td>16</td>
<td>20</td>
<td>12</td>
<td>19</td>
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<tr>
<td>N. of years obs.</td>
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<td>15</td>
<td>16</td>
<td>12</td>
<td>14</td>
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<tr>
<td>Average n. obs. per year</td>
<td>376</td>
<td>201</td>
<td>760</td>
<td>319</td>
<td>268</td>
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<tr>
<td>Mean</td>
<td>1.116</td>
<td>1.367</td>
<td>1.188</td>
<td>1.380</td>
<td>1.054</td>
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<tr>
<td>N. of years obs</td>
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<td>10</td>
<td>17</td>
<td>9</td>
<td>7</td>
</tr>
<tr>
<td>Average n. obs. per year</td>
<td>313</td>
<td>254</td>
<td>467</td>
<td>302</td>
<td>160</td>
</tr>
<tr>
<td>Mean</td>
<td>.981</td>
<td>1.051</td>
<td>1.115</td>
<td>1.207</td>
<td>.997</td>
</tr>
</tbody>
</table>

Source: our calculations on ONS data, published in ‘New Earnings Survey Part C: Analyses by Industry’.

Notes to Tab. 1:

1) The sub-sample considered in our table includes only full-time males on adult rates whose pay for the survey pay-period was not affected by absence and for whom normal basic hours were reported.

2) Relative earnings are calculated dividing average gross hourly earnings for each sector by average gross hourly earnings in all industries and services.

3) Gross hourly earnings, excluding the effect of overtime pay and overtime hours = (Gross weekly earnings minus weekly overtime earnings) divided by normal basic hours, for an employee whose pay for the survey pay-period was not affected by absence and for whom normal basic hours were reported.