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The economic impact of local and regional pay in the public sector

A report by nef for the Trades Union Congress (TUC), July 2012

Contents

Summary of main findings

This report, conducted by the New Economics Foundation for the Trades Union Congress, examines the Government's arguments for localising public sector pay and the potential economic impact of the policy. It finds that these arguments are not supported by the evidence, and that the policy would have a significant negative impact on the economy which could reach almost £10 billion.

The Government has expressed its intention to introduce more 'local market facing' pay in the public sector, specifically to address perceived gaps between public and private sector pay, particularly in regional economies outside London and the South-East.[1] Whilst little detail has been made available about the way the policy might work, it seems likely that in the current climate of spending cuts and pay restraint, it would lead to long-term pay freezes for public service workers in much of the UK.

The Government has justified this proposal with reference firstly to gross pay differentials between the public and private sectors; secondly to the assumption of much greater responsiveness of private sector wages to local conditions; and thirdly to the crowding out hypothesis. According to this hypothesis, since private sector firms have to compete with public sector employers for staff, reducing the so-called public sector pay 'premium' would help businesses to become more competitive and to expand.

In this report, commissioned by the TUC, we have closely examined the basis for the Government's evidence on all three of the points above. We find that none of them stand up to close scrutiny. We have also conducted what we believe to be the first attempt at modelling the potential impacts of the Government's proposal on regional economies in England and in Wales, and on the national economy. Our key findings are set out below.

We find very weak evidence to support the idea that there is a public sector pay 'premium'. The Government's evidence on the issue[2] suffers from a number of serious shortcomings. In particular, the different nature and profile of employment in the public and private sectors indicates that occupational and pay structures are barely comparable. Language around a 'premium' which suggests exceptional pay is at best misconceived, at worst mischievous and ideologically driven.

The concept of rigid public-sector pay-setting versus flexible, localised private sector pay-setting is also misrepresentative of reality. There are national patterns of pay in the private sector with considerable benchmarking and use of national scales among large and medium-sized firms and even down to the small firm level.

The theory and evidence around the crowding out hypothesis remains highly contested in economic theory and practice, and is not supported by observational data. Business surveys suggest that private sector agents do

not experience pay in the public sector as an impediment to growth or recruitment.

We modelled the economic impacts of localising public sector pay under different crowding out scenarios, ranging from an approach which applies the Government's argument that crowding out exists, to the opposite end of the spectrum with no crowding out at all. The results of this exercise reveal overall net economic costs in each region of England and in Wales and across the national economy. We find potential savings to the public purse to be minimal, even without taking account of additional administrative costs, which could be substantial.

The magnitude of the reduction in economic performance varies across regions. Nonetheless, under a best case scenario, where private sector jobs are created in response to an overall reduction in public sector pay, the costs in national terms still outweigh the benefits, with an overall annual net loss of 0.12% of UK GDP or £2.7 billion – a far from negligible reduction. In contrast, in a scenario where there is little or no private sector employment response to a fall in public sector pay the annual net costs at a national level would reach £9.7 billion, equivalent to 0.43% of UK GDP.

Overall, our research indicates that the evidence does not support measures to make public-sector pay more 'market-facing', and shows that the costs to the economy could be substantial. This negative economic impact is the case even if there were some benefits in terms of private sector job creation - an outcome that our analysis shows is highly uncertain.

Introduction: Public-sector pay amidst austerity

A number of organisations including the TUC have challenged the fairness and efficiency of the Government's proposal to make public-sector pay more market-facing, for example in its evidence to the Office of Manpower Economics (OME).[3] Based on analysis of worker profiles in the different sectors, the case has been argued that simply comparing average wage levels does not compare like with like, and that the first-order impact of the proposed move will play out through difficulties retaining and recruiting staff in key areas of the public services and will ultimately hit demand in already deprived regions.

The TUC asked the New Economics Foundation (**nef**) to explore in more depth the economic arguments and evidence around local and regional pay in the public sector. At this stage in the debate a more in-depth economic analysis will contribute to an interrogation of the cornerstone underpinning the Government's proposal - the crowding out hypothesis. This contends that where public sector pay levels are on average higher, they limit private sector access to workers, and hence drive out opportunities for enterprise, and local economies, to flourish and be self-sustaining.

The Government's policy proposal should also be seen within the broader agenda of attempting to cut the deficit through reduced public expenditure. The Government's decision to try to eradicate the deficit in four years, primarily through spending cuts, has led to significant cuts to public services and a reduction in the public-sector workforce. The Government has expressed its belief that the private sector will absorb the half million or so workers predicted to fall out of the public sector as a result of the spending cuts.[4]

Another possibility for scaling down public expenditure is to reduce the bill for retained public sector workers. Public service workers have already had their pay frozen for two years running and now know that the Government intends to cap increases at 1 per cent for a further two years. The drive towards local or regional pay must be seen in this context. The Government has referred to average wage differences between the public and private sectors as an argument for pursuing this route. But it carries significant risks. This report sets out to explain these risks and demonstrate the economic implications.

The basis for the Government's proposal to make public sector pay more market-facing is a focus on face-value evidence[5] for differences in average pay between the public and private sectors across the regions of the UK. Although these differences arise from a combination of factors which distinguish in important ways the characteristics of jobs, employees, and

earnings profiles in the public and private sectors, nevertheless language has been simplified around a public-sector pay ‘premium’.

Alongside this headline analysis of comparative pay in the public and private sectors, the Government assumes the validity of the crowding-out hypothesis in economics, and uses it to underpin proposals for localising public sector pay. But the crowding-out hypothesis remains contested in academic literature, especially at a time of recession or high unemployment. This means it is a questionable basis for a major shift in policy and approach in the labour market, which is likely to have critical knock-on effects for economic performance. The research presented here has undertaken a review of the literature on the crowding-out hypotheses, along with a review of relevant available data to clarify the state of current theoretical and empirical evidence. We have then gone on to apply a modelling approach to shed fresh light on the potential regional and national economic implications of changes in public-sector pay associated with the Government’s proposals.

Part 1: Crowding out in the labour market – theory and evidence in economics

In this first part of the report, we draw on a review of the literature in academic and empirical economics to situate, assess evidence, and challenge assumptions around the economic impacts of public sector pay. In order to do this we have pursued three lines of enquiry around the following concepts:

- Crowding-out: the hypothesis assumes that public and private sector employers compete for workers. If public sector jobs pay higher wages then the argument is that workers will prefer those jobs, and will even wait for them rather than taking a private sector position.[6] This would produce two effects. First, it would reduce the supply of labour to the private sector. Second, it would impose higher employment costs on employers, reducing the demand for workers and creation of private sector jobs. This is the assumption that underpins the Government's approach.
- Crowding-in: in addition to direct public sector procurement of goods and services which injects spending into the economy, the payment of wages to public sector employees creates consumption demand and positive multiplier effects through public sector workers' spending on goods and services. The impact of this is likely to be especially important when the economy is running below full employment. Even Milton Friedman, who originated the crowding-out hypothesis doubted that it had any validity in an economic downturn, when public spending acts as a counter-cyclical force.
- Surplus recycling: beyond the issue of positive or negative multiplier effects from public spending, including on wages, the concept of 'surplus recycling'[7] introduces the argument that there are whole-economy benefits from transfers which reduce spatial disparities This implies that the benefits of redistribution of resources from richer to poorer areas go beyond sustaining less well-off regions, and into enhancing the overall potential and productivity of the macro economy.

Building on these lines of enquiry, the following sections present the evidence around these concepts in more detail. We respond to the key assertions made by the Government in presenting its proposals, which follow two major analytical steps: the first step consists in asserting that there is a public sector pay premium. The second step consists in considering that this presumed public sector pay premium distorts regional economic systems, thereby undermining regional and national economic performance. Our conceptual overview in this part of the report challenges

these statements while constituting a prelude to a quantitative assessment in Part 2 of the impacts of reduced public sector wages in English regional economies and Wales.

1. Public-sector pay 'premium': reality or myth?

1.1 Is the Treasury's evidence convincing?

The Treasury assertion that there is a public-sector pay premium is based upon two types of studies: Firstly, (a) studies which aggregate all public sector wages and all private sector wages in different regions, and subsequently compare mean and medians of one versus the other.[8] And secondly (b) micro-economic studies conducted in different regions and for specific sectors.[9] We take each of these sources of evidence in turn, below.

- Comparing the means and medians of public versus private sector pay both at a regional level and at a national scale is an inherently flawed exercise. A number of responses to the Government's proposal on localising public-sector pay including submissions to the Office for Manpower Economics (OME) have highlighted factors which explain a major part if not almost all of the differences in the data on average pay.[10] These include the fact that the public sector workforce is older than the private sector, that there are more highly skilled and qualified people working in the public sector, that there is a smaller gender pay gap, and a smaller gap between top and bottom pay in the public sector. It is also evident that there are not easy comparator professions for many public sector roles, such as fire-fighters or midwives. Studies cited by the Treasury adjust for some key differences between public and private sector employee characteristics, such as level of education and age, but not all. Moreover, the ONS itself recommended caution in the treatment of pay comparisons given gaps in the data including on job classifications. Overall then, relatively simple comparisons as used by the Treasury are synonymous to comparing "apples with oranges": and strangely or not, this is a habitual fallacy of "pop" economics and statistics.
- The micro-economic and micro-social studies quoted by the Treasury[11] deal with specific specialised sectors, namely education and health. Findings from these studies cannot be assumed to read across to other parts of the public sector. Firstly, in such specialised sectors, where training can take a number of years, for instance to become a doctor or midwife, it is questionable whether many people would choose, or be able to retrain into or out of medicine for example, and cross over between the public and private sectors. Reference to these micro-economic studies means that instead of grasping the "big picture" the reader is misguided into examples which can doubtfully be up-scaled to provide robust evidence for macro policy-making. Indeed, the authors caution the need for more work before using the models in policy-making.[12] Secondly, and critically, these studies refer to impacts on service quality where public sector pay cannot sufficiently compete with private sector pay, compromising recruitment and retention. The studies considering hospital pay focus on the need for higher pay in regions where there is a private sector premium, and neither recommend or analyse the impact of lowering hospital pay in other areas. If we consider that the main thrust of the Government's proposals is crowding out of the private sector, and therefore to put downward pressure on public sector wages, these micro-economic examples are not expressive of ministers' core argument and supporting evidence, which is predicated upon data suggesting a problem of public sector pay premia across regions of the economy, even including London.

1.2 Scrutinising the bigger picture

Numerous studies demonstrate that public and private sector wage levels are simply not comparable.[13] These studies point out that the occupational structures in the private sector are radically different from the ones in the public sector, for instance due to average educational and skill levels across the two sectors. In addition, further work by Incomes Data Services highlights the importance of a number of other factors on relative pay, including organisational size, job tenure and managerial responsibility. Neither IFS nor ONS adjust for these additional factors in their regression analyses. Without this type of adjustment it is unreliable to draw meaningful conclusions from any exercise to compare mean and median wages between the two sectors. When these additional controls are included pay differences are reduced significantly.[14]

Findings on organisational size are particularly critical. Larger organisations tend to pay higher salaries for comparable positions.[15] For obvious reasons, this is extremely important in a comparison of public and private sector pay, where public sector organisations, even down to the level of individual schools, are significantly larger than average private sector firms. Analysis of Labour Force Survey data shows that there is a positive relationship between firm size and average wages even *within the private sector*.

> *"Paying local rates works for small businesses like ours because that is the way they have always operated…. But the public sector is not a small business and should never be run like one. You cannot compare like for like"*[16]

We would also highlight the role of public sector wage bargaining on reducing socio-economic inequality. The gap between higher and lower paid workers is less in the public sector than the private sector since lower paid workers do better and higher paid workers relatively worse than in the private sector. In addition, national negotiated pay systems like Agenda for Change in the NHS have been important developments in reducing the gender pay gap.[17] Narrowing pay differences between the male and female workforce in the public sector has been a fundamental contribution to tackling societal inequality.

A critical aspect of real-world observation is in terms of actual pay-setting. The Government refers to rigidities in public-sector pay-setting which do not exist in the private sector. This is an assumption that also occurs in the academic literature as referred to above.[18] However, as Incomes Data Services has pointed out this demonstrates a fundamental misunderstanding of how wages are set in the private sector. In its work it has found that large, multi-site companies have national pay structures, with some broad zonal pay-setting systems, almost always with pay structures and zonal differentiation set centrally. Benchmarking of pay for key skills and qualifications among large and medium-sized firms is widespread and influences the market rate for the job across industrial sectors. What it does not find is a high degree of local sensitivity. This also reflects on the degree to which regional variation in private sector pay exists, which Incomes Data Services finds to be over-stated by the Government and others. Outside London and the South-East there is more similarity than difference, with levels set by skills and sector rather than by geography.[19]

The Treasury cite academic evidence to support the notion that pay in the private sector is more responsive to area differences in amenities and costs. However, the study it refers to[20] contains flaws in terms of data and methodology. The analysis only controls for education, experience,

industry, age group and gender, and not for the full range of factors including responsibility and organisation size for example, so it does not compare like-for-like occupations. It is also worth noting that this paper uses data only up to 2001 which is considerably dated given the changes in the labour market and economic context in the past decade.

Methodological flaws aside, a closer look at the analysis reveals that the lack of responsiveness observed in public sector pay is more of a problem in areas where the private sector pays more – i.e. that public sector pay is sticky upwards, not downwards. In response to this finding, and highlighting that the non-responsiveness they refer to supports higher pay in London and the South East rather than lower wages outside these regions, the authors themselves conclude that

> *"reform of public sector pay structures is likely to be costly, and so other non-pay policies need to be considered to increase the attractiveness of public sector jobs."*

Separate from, though related to a discussion of perceived differences in pay across the public and private sectors, it is important to clarify that use of the term "premium" is misconceived. It suggests exceptional pay, over and above parity when comparing like with like. But where job and worker profiles and characteristics are different and may not easily be substitutable it is not reflective of the real situation. In addition, as pointed out by the IFS in an earlier report,[21] until the financial crisis of 2008, public sector salaries were on average in line with the private sector, with a divergence appearing from that point onwards as private sector wage cuts took place. This is not suggestive of a 'premium' being set, rather it indicates a natural drive for cost-cutting by firms influenced by overall economic pressures producing a downturn in activity . Such pressures are entirely different from any influence of public sector employment and wages on the private sector. Any argument to suggest that public sector wages should be cut in line with reductions in private sector pay needs to take account of the pro-cyclical effects this would have, reducing aggregate demand even further in tough economic times. Our modelling in Part 2 of this report attempts to estimate just such an impact.

1.3 The Treasury's assertion: A "heroic assumption"?

This section has described weak evidence for the "public sector pay premium" argument. The different nature and structure of employment in the public and private sectors suggests that they are barely comparable.

To demonstrate the "public sector pay premium" thesis, one would need to compare at a more granular level similar types of occupations and responsibilities and similar types of positions. Only then would it make sense to compare public versus private sector wages on a disaggregated basis. To our knowledge, such evidence does not exist and as noted above it is difficult to find appropriate comparators for many public sector roles. As a result it should be incumbent on the Treasury to draw this evidence together in order to demonstrate the case for a major policy shift. Without this, the "public sector wage premium" remains a "heroic" assumption.

2. Crowding-out or crowding-in? Supply-based versus demand-based economics

Whether or not the existence of a public/private-sector pay gap is a heroic assumption, or is borne out by meaningful evidence, there are further important questions as to (1) whether or not "crowding" exists, and (2) whether, even if it does exist, it matters. Simply put: is a public sector wage difference necessarily a negative thing for overall economic performance?

The central assumption in the Government's case for local pay is that public sector pay 'crowds out' private sector growth. Crowding-out in the labour market does not constitute a "theory" however; rather it is a "hypothesis", not least because of contrasting evidence, particularly at a macro level. The assumed mechanism for crowding-out is that higher public sector wages lead to additional labour costs for the private sector via competition for workers in the labour market. The effect is to reduce private sector expansion and productivity, and hence overall economic activity.

In direct contrast, some studies suggest a "crowding in" effect. Here the mechanism is that higher public sector wages, both in flourishing and deprived regions, raise effective demand for goods and services, which therefore increases turnover and ultimately profitability for private businesses.

Deep down, the "crowding out" versus "crowding in" debate is rooted in different epistemological schools of thought. In short, the "crowding out" hypothesis stems from neo-classical "supply-driven economics", while the "crowding in" hypothesis is rooted in Keynesian "demand-driven economics".

Unveiling the theoretical aspects of this debate is as important as presenting the existing empirical evidence. In this report, therefore, we first critically present the Treasury's evidence, and then turn to the theoretical background underpinning this debate. Finally we present a critical appraisal of the available empirical evidence.

2.1 Is the Treasury's evidence convincing?

The Treasury paper provides evidence based upon empirical micro-economic studies, for example on the teaching and nursing workforces. As noted previously this evidence is specific to highly skilled and specialised sectors and cannot therefore be transposed to a macro-level. But somewhat curiously it also describes a scenario in which it is public sector workers being crowded out by private sector wages, which is a contrary problem to the one the Government is trying to highlight. While there is no doubt that shortages of labour can occur for the private sector in some regions, this is hardly convincing for explaining macro-trends, especially at times of labour market slack.

The Government does not cite or refer to any academic literature on the case for crowding out on a macro level. As we shall see, macro-level evidence has so far yielded contrasting findings which undermines the validity of the "crowding out hypothesis" for policy-making.

Finally while the Treasury presumes that equalising public and private sector pay in the regions will yield benefits for overall productivity and economic performance, it spectacularly fails to recognise any of the potential associated costs. These costs could include:

- Undermining the quality and consistency of public services, either through (1) a greater preference among public-sector workers to move to the private sector, or (2) public sector workers moving away from lower pay areas (and by association relatively deprived areas) to areas where their occupation attracts higher pay, or (3) a reduction in motivation and productivity. Lower quality public services would reduce the "positive externalities" which directly or indirectly benefit the private sector.

- A reduction in aggregate demand (as disposable incomes fall for a portion of the workforce) with consequences for regional economic activity and prosperity, and tax-take accruing to the State.

Even if a degree of crowding out is assumed to hold, it is hard to discern whether the benefits of reforming public-sector pay, i.e. through job creation and higher productivity in the private sector, would outweigh its costs, i.e. direct and indirect impacts of a reduction in aggregate demand as public-sector workers have less disposable income for consumption. Nor are the public finance implications clear. Although pay bills might fall (although they might rise in hot-spot locations), localising pay implies duplication of the pay setting apparatus in dozens (or potentially hundreds) of different places and organisations in contrast to a single national pay bargaining process that is more efficient in terms of administrative costs. The fact of administrative efficiency might help explain why larger private sector firms do not adopt fully autonomous wage bargaining in individual plants but rather adopt a national or zonal system.

Any serious economic analysis of the proposed reform should weight these costs and benefits. The Treasury paper does not extend its analysis this far.

2.2 Theoretical background and implications

In essence, the crowding out versus crowding in debate stems from a theoretical confrontation:

- A supply-side perspective would suggest that a public/private sector pay gap: (1) artificially inflates overall wage levels above the market equilibrium, and therefore (2) impedes entrepreneurs from hiring and investing due to higher labour costs.
- A demand-side narrative would indicate that: (1) the decision to invest or not is primarily dependent on expected demand for goods and services, and therefore (2) that reducing aggregate demand, be it on a regional or national scale, will fatally undermine investment prospects for the private sector.

Under the first narrative, the public and private sectors are competing, i.e. higher public sector wages hijack private sector competitiveness, while under the second they are complementary, i.e.by spurring aggregate demand in respective regions a public sector pay premium would in fact decisively support private sector viability – and investments.

These different epistemological narratives are not necessarily mutually exclusive, for instance the one may be more valid in a situation of full employment and the other in a situation of underemployment. Similarly, in a recessionary context, as at present, it is widely accepted that aggregate demand plays a decisive role in keeping private investment afloat.

The Government takes an a priori position. It entirely overlooks the demand-side perspective by applying a supply-side lens only to its interpretation of the complex phenomena around this issue. This could be justified if the supply-side perspective had wide empirical support, and if the evidence was not so contested by real world experience. But the empirical evidence does not support this one-sided analytical premise.

2.3 Contrasting empirical evidence and observation

Studies aiming to test the crowding out and crowding in hypotheses in the labour market are scarce. Some studies attempt cross-country macro-economic analyses, seeking support for the crowding out hypothesis but finding contrasting evidence. Results are notably dependent on differential labour market conditions and the broader economic environment. Similarly, studies conducted in the US across different States present mixed results, unable to clearly demonstrate either a crowding out or a crowding in effect of public sector pay.[22]

It is equally important to question the econometric methodologies these studies use, e.g. modelling assumptions such as perfect information, fluidity of pay-setting in the private sector (see below), as well as the actual comparability of datasets, e.g. unemployment rates across different countries.

Separate from academic studies designed to test the crowding out hypothesis, reviewing survey and business data is helpful in revealing patterns of enterprise and employment growth, trends and behaviour. Direct observation yields vital information about the extent to which business decisions are in reality affected by small differences in aggregate average pay in the public and private sectors.

Interviews with business representatives commissioned by TUC alongside this report found that issues around public sector pay were not cited as a major issue in holding back recruitment.[23] Interviews rather identified lack of demand, particularly in deprived regions like the North-East as a key determinant of private sector performance and decisions around whether to recruit new workers. They also highlighted issues around skills and finance, particularly late payments, as critical inhibitors to recruitment and overall business performance. Competing with public sector pay was not cited by interviewees as an important barrier to recruitment.

> *"I don't think that at the moment the private sector has to compete with the public sector – it just doesn't seem to be an issue for businesses, who have important other issues to deal with right now around demand and getting through a very tough period"*

A wider review of the data and literature supports these findings. Businesses consistently voice a lack of confidence in skill levels as the key challenge to recruitment[24]. A recent survey administered by the Institute of Directors found that 57% of respondents to their survey said that that their ability to recruit suitable staff had never been affected by public sector wage competition.[25] On the contrary, public sector organisations have recently complained of difficulties in recruiting suitable staff for more senior positions, mainly due to pay in the private sector.[26]

The lack of direct evidence that pay in the public sector is an issue for businesses also can be found in the literature describing key determinants affecting enterprise growth. In a nef report, *Filling the Jobs Gap*, we reviewed this literature and highlighted six fundamentals for business growth, none of which pointed to pay in the public sector. Instead they stressed the importance of a marketable idea with consumer demand, access to finance, business networks and a supply-chain, suitable infrastructure including manufacturing or trading space and the availability of a suitably skilled workforce.[27] In short, the current fixation on public sector pay is minimising the effect of more important driving factors of both recruitment and business formation.

It is worth also reflecting here on the shape of the labour market in Britain. On a national level, around 20% of employees work in the public sector versus 80% in the private sector.[28] This means that in aggregate, private sector wage setting might be expected to be a stronger force in employers' competition for workers. This fact was highlighted in interviews conducted for the TUC:

> *"We have never really come across this crowding out issue. It does not stack up... In fact from what we have seen, recruiting for both, the private sector will often pay the higher wages".*

Certainly, findings suggest that in a tight labour market it is private sector competition that drives pay increases across firms, and causes crowding out of public sector employment in hotspots like London and other major cities.[29] This point is one that IDS research backs up. In a forthcoming report for Unison IDS finds that latest ONS data on Average Weekly Earnings (April 2012) show that average pay in finance and business services (with 20% of employees in employment) is much higher at £619 per week than average pay in the public sector (also with 20% of employees in employment) at £468 per week.[30]

2.4 A critique of latest empirical evidence

To our knowledge, the only UK study empirically investigating the crowding out hypothesis is a 2012 conducted by Faggio and Overman[31]. As the most complete empirical/quantitative analysis to this date, this study deserves particular attention and scrutiny.

Faggio and Overman use a Computable General Equilibrium (CGE) model to examine whether the size of the public sector affects regional economies positively or negatively. Their results suggest that although there might be no overall crowding out effect, public sector employment enhances employment in the non-tradable sector, *i.e.* services, while reducing employment in the tradable sector, *i.e.* manufacturing.

Beyond methodological considerations, critically presented below, the rationale is as follows: higher-than-market public sector wages or an increase in public employment inflates the cost of production via higher prices for labour and capital (e.g. land and housing prices). These higher prices reduce the competitiveness of the manufacturing sector.

Key points of our analysis of the study are as follows:

1. Faggio and Overman use a CGE model because it is considered to be more appropriate than input-output models for evidencing structural change[32]. This, however, overlooks inherent problems of CGE modelling as analysed for example by Akerlof and Yellen[33], Ackerman[34] and Mitra-Kahn[35].
2. In particular, CGE models are based upon often unrealistic assumptions relative to the functioning of the economy. One of the main flaws is that input assumptions impose, rather than investigate, causality.
3. In the case of Faggio and Overman, for instance, one assumption is the existence of a "wage premium" in the public sector and this is computed within the model. As discussed above this is a highly debatable assumption – and the evidence taken at face-value needs to be treated with caution.
4. In the case of Faggio and Overman it is not clear whether they are applying a gross or net "premium". For example, it is not clear

whether the applied differential controls for differences in education level, type of work or gender inequalities in the public and private labour markets.

5. The model functions by artificially differentiating wage setting processes between the public and private sectors into: national wage setting for the public sector, which broadly speaking reflects reality, albeit with some variation possible between local authorities and flexibility in terms of grading of posts in schools for example; and supposed regional and local wage setting in the private sector, which is not necessarily a valid assumption. Most notably IDS research suggests that envisaging private sector wage-setting as localised is misleading. Most large, multi-site companies, such as banks, supermarkets and telecoms companies such as BT set pay levels on a national basis. Manufacturing companies in specific sectors such as the car industry or pharmaceuticals benchmark pay rates and establish a 'going rate'. Market benchmarking of pay can flow down to SME level as well.
6. Among other debatable assumptions within the model, there is a problem around the assumed endogeneity of factors such as deindustrialization in British regions – which can critically skew findings. Are public sector wages and public sector employment really to blame for British regional deindustrialization and manufacturing decline? This would constitute a truly heroic suggestion.
7. If the findings of Faggio and Overman are correct, then the reality they depict should equally work in reverse, i.e.: a relative reduction in public sector wages or public sector employment should lower the cost of production, in turn spurring manufacturing production via a *relative competitiveness effect*. Yet, the (neo-classical) assertion that manufacturing competitiveness depends on wage levels is inconsistent with macro-economic evidence as well as latest trade theory dealing with relative competitiveness[36].
8. In particular Kaldor[37] depicted the following paradox, confirmed by more recent research[38]: countries which have experienced the highest increase in unit labour costs are also the ones which have enjoyed the greatest increase in market share throughout the post-war period. This is essentially because relative competitiveness and success of the tradable sector, e.g. manufacturing, is much more dependent on the type of products exported, i.e. level of sophistication and complexity. The production of relatively complex products tends to increase the competitiveness of a country's trade sector. In turn, this "upgrade" to greater complexity of product requires extensive public/State support, depending on a highly skilled public sector, as evidenced by economic history[39] (Chang, 2002). In short, public support to enhance clusters, scale economies and enable extensive R&D investment in the British periphery would contribute much more to expanding the traded sector than a supposed reduction of mean wages.
9. Last but not least their results are not statistically significant, which constitutes a major problem.

3. Beyond crowding out and crowding in: the wider impacts of national wealth distribution systems

3.1 From surplus recycling as a wealth distribution mechanism…

National wage setting and other measures, such as uniform unemployment benefits across different regions or uniform minimum wage, have been a prominent instrument of redistribution of wealth from rich to poorer regions in all modern Nation-States. These mechanisms respond to a redistribution and solidarity imperative between what we can denominate as “surplus” (i.e. rich) and “deficit” (i.e. poor) regions. Nonetheless, a common misconception is that these policies, among which uniform public sector wage setting is prominent, only respond to the redistribution agenda. This is not the case. There is ample conceptual and empirical evidence suggesting that this is a prominent instrument to drive economic efficiency across the macro-economy and to ensure consistent public services.

The North/South divide in Britain remains a preoccupation for economic policy-makers, with Governments on either side of the political spectrum ostensibly seeking measures to achieve a better spatial balance. In interviews conducted for the TUC, respondents noted that the Government’s proposals for localising public sector pay could further reinforce Britain’s economic divide because for regions such as the North-East and North-West the public sector workforce is an important driver of local demand.[40] In addition, the interviewers heard the perspective that moves to localise, i.e.: reduce public sector pay would reinforce stereotyping of these regions as low value, therefore putting off rather than encouraging potential investors.

Interregional imbalances are common across countries, but where they are more severe, such as in the UK, there are a number of macroeconomic, infrastructure and social implications. It is because of these that many countries opt for a more dispersed economic geography. Both Germany and Japan for instance have actively promoted regional policies that have included significant public investment.

One common outcome of interregional imbalances is migration. London hosts 12.5 per cent of the UK population on only 0.6 per cent of the land area. The South East holds a further 13.7 per cent. This concentration has clear implications for housing and infrastructure demand, with acute on-going housing shortages in London.

3.2 …to surplus recycling as an economic efficiency mechanism

Internal imbalances and the use of surplus recycling from rich to poor regions is not merely a response to a social justice issue. Rather, surplus recycling is justified through the idea that any form of union (notably monetary) between economically divergent regions either creates internal imbalances, or exacerbates pre-existing ones through concentration effects (see previous section) and related uneven productivity growth. In the absence of monetary levers regions cannot adjust their external positions through appreciation or depreciation of their currency. The result is that the surplus regions get richer (e.g. London) and the deficit regions (e.g. the North-East) get poorer[41]. The current problems in the Eurozone illustrate the same problem occurring to an even greater extent in a larger currency union. Fiscal transfers help abate this divergence to ensure that economic unions do not become too lop-sided – but it would be wrong to assume that this process results simply in a monetary transfer where the benefits solely accrue to the recipient region in need.

A rise in productive, and therefore wealth, divergence means there will be a deflationary impact on the deficit region / "periphery", thus shrinking its demand. But shrinking the periphery's demand will equally undermine productive opportunities for, and the accumulation of surpluses in the "centre" (e.g. London) since the latter depends upon demand in its own periphery. If the "market" (i.e. private capital) doesn't address this imbalance (and it typically doesn't, as activities tend to concentrate in the centre) then the role of recycling surpluses from the centre (e.g. London) to the periphery (e.g. the North-East) is incumbent on the State. The rationale for this is not for the sake of charity but to ensure the capacity of the centre to continue accumulating surpluses. Because both processes are inextricably tied, reluctance to recycle surpluses would economically undermine both peripheral and central regions in the wealth accumulation process.

Modern Nation-States have always been aware of this thin process - at least since Keynes[42]. Typically, three forms of public levies have been jointly used to palliate these imbalances: (1) Recycling through direct productive or infrastructural public investment; (2) relocation of State services (e.g. decentralization); (3) *uniform* public sector wages and minimum wage[43].

The surplus recycling question can thus be used to demonstrate that:

1. The spending of public sector workers is unlikely to be substituted through private sector additional employment and purchasing power (indeed, there will be no substitution through a supposed additional employment). In fact, the problem in the peripheral region might be completely detached from wage levels.
2. This process whereby weakening surplus recycling mechanisms will not only undermine the periphery but equally the supply side of the equation in the centre: as such, the entire national economy.

4. Conclusion to Part 1

The first analytical step taken by the Government in its evidence is to assert that there is a public sector pay premium in much of the UK. Nonetheless the evidence provided is far from sufficient to support this line of argument.

1. The macro-comparison does not break down wage differentials by work type and workers profiles across the public and the private sector; as such, it is clearly insufficient.
2. Similarly the empirical evidence provided is purely anecdotal: put simply, it cannot constitute a proof since micro case studies cannot necessarily be up-scaled to reflect macro realities.

The second analytical step taken by the Government is to proclaim that this pay differential, or put in the terms of the Treasury, "pay premium", has an adverse impact on regional economies and thus, via extension, on the national economy. Again the evidence does not provide sufficient justification for this assertion:

1. The Government uses the crowding hypothesis to justify this policy intervention. Nonetheless, the crowding out hypothesis has not been demonstrated empirically and disregards other theoretical strands which conceive the existence of crowding in effects, i.e. public sector wages driving, rather than impeding, private employment and productivity.

2. Further, national wage setting, as other redistributive instruments across countries, are critical (a) to smooth adverse shocks, such as the current recession, as well as (b) enhancing national economies.

Part 2: Modelling the economic impacts of 'localising' public sector pay

To our knowledge, no study has yet attempted to examine and evaluate the possible economic impacts of localising public sector pay. In this research, we attempt a preliminary analysis of potential impacts by using two input-output models (developed for the North-East and South-West regions) and we extend some of their key features to consider all regions of England and Wales.

Whilst this consists solely of a preliminary analysis, and further work would be required to identify impacts in a more detailed fashion, we provide for possible impacts on regional GVA, employment levels, and potential fiscal impacts. In short we have sought to provide an analysis to launch a more informed debate vis-à-vis the costs and potential benefits of a localisation of public sector pay. The essential question we have begun to explore is the following: can the potential benefits of undertaking this policy intervention outweigh its costs?

1. Approach and methodology

1.1 Approach

Following the focus behind this policy proposal on pay differentials (or the so-called public sector pay premium), our approach considers the impact of a reduction in average public sector pay to private sector levels in the different English regions and Wales; that is elimination of pay differentials. The magnitude of the reduction in public sector pay in each case therefore depends on the scale of the differential in each region.

Only on rare occasions - if any - does a policy or intervention not involve both costs and benefits: advantages and disadvantages. Beyond political considerations, the field of welfare economics suggests that a policy intervention should be considered efficient, i.e. increasing *net* societal welfare, if the full stream of benefits it generates for the wider economy and society outweigh the full stream of costs it incurs.

Our qualitative analysis and review of evidence suggested that there are potentially (1) very certain costs arising from the localisation of public sector pay which are linked to the reduction of aggregate demand (2) some certain benefits, such as direct cost savings to the State, and finally (3) very uncertain benefits linked to a speculative argument around a reduction of a presumed crowding out effect in the labour market (see Part 1 of this report).

Overall, we have more certainty over the costs than the benefits as regards regional economic systems. The costs are linked to a reduction of aggregate demand, including the direct and indirect impacts of such a

Table 1: Summary of key welfare costs and benefits

	Certain Costs	Certain Benefits	Uncertain benefits
Economic system	Reduction of aggregate demand has an adverse impact on the private sector at regional and national levels *via* a reduction of consumption and subsequent negative *multiplier effects*	n/a	Increase of private sector productivity *via* an increase of skilled employment through reduction of "labour costs" and other inputs, i.e. a reduction of aggregate demand deflates the price of additional capital inputs. And positive multiplier impacts of increased productivity / private sector employment
Public finances	Decrease of tax income through negative multiplier impacts and increase of public expenditures as a consequence of reduced total employment as a consequence of adverse shock on the private sector of regional economies	Budget cost savings induced by a reduction of public sector pay	Increased tax income through positive multiplier effects induced by higher private sector productivity and employment

reduction on both the private and public sectors, including public finances. There is a high degree of certainty attached to these costs, especially in periods of less-than-full employment. The uncertain benefits, derived by a putative increase in private sector employment and activity, are dependent on two assumptions: firstly, that there is a pay premium in the public sector; secondly, assuming there is one, that this pay premium has adverse impacts on the economic system. An overview of potential impacts considered in our analysis is provided in Table 1. It is worth mentioning that this list is not exhaustive; indeed, an exhaustive analysis would include the transaction costs of such a policy reform, notably entailing administrative costs incurred as individual organisations build capacity for and undertake pay bargaining and benchmarking exercises. Due to lack of sufficient quantitative evidence, these costs were left aside.

Our approach aims to consider the above potential costs and benefits under multiple possible assumptions and combinations. Indeed, even if there is no strong evidence for some impacts we start from the premise that different possibilities can and should be examined in the face of uncertainty.

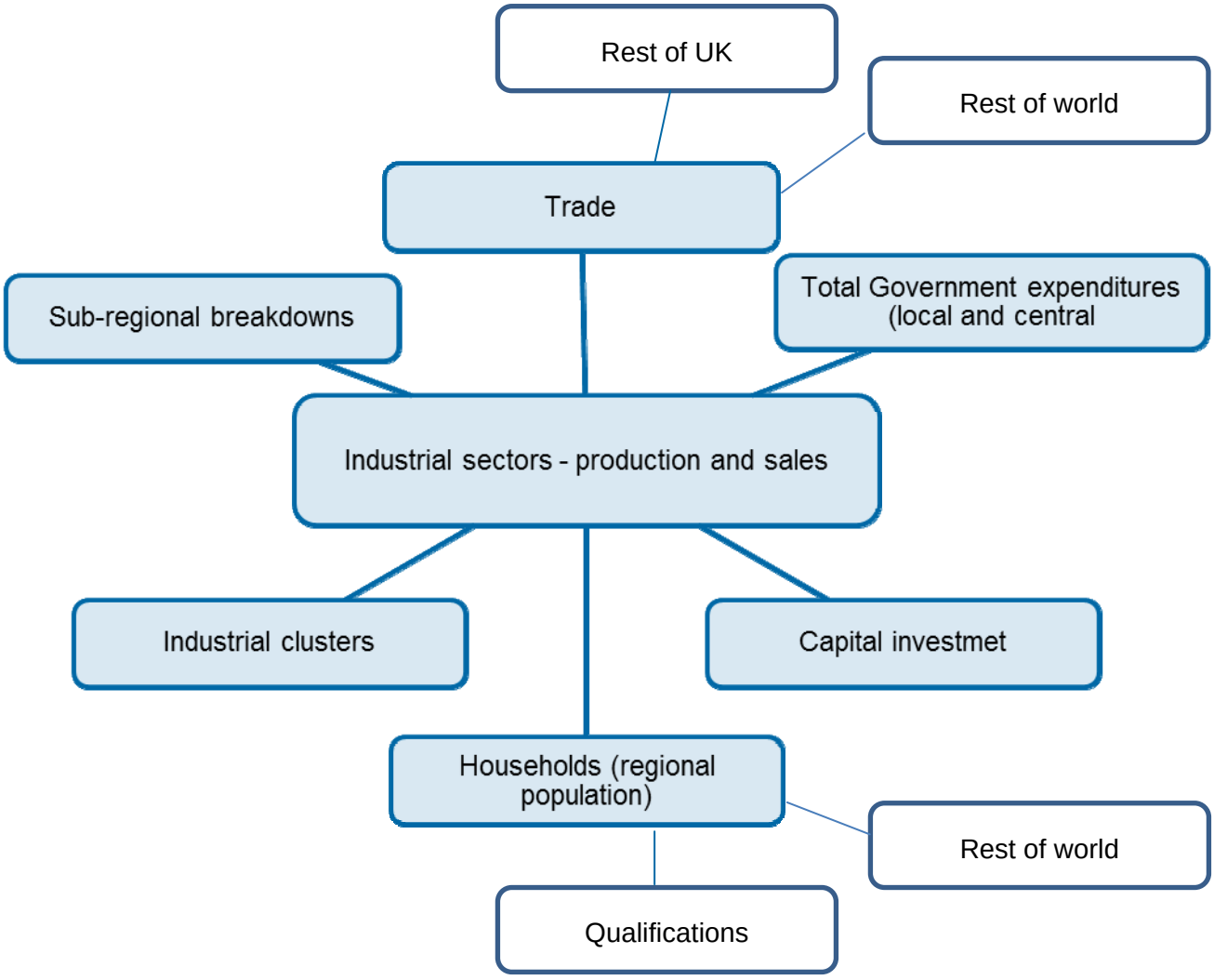
This is the case with the crowding out hypothesis. Whilst it has not been demonstrated so far, neither has it been convincingly empirically refuted. We therefore aim to model different assumptions as to the extent of crowding out to embody in our analysis various potential effects of the proposed policy reforms. Notwithstanding, it is important to weigh up which of these assumptions are the most likely as per academic evidence. This will test a critical question: even if there is a crowding out effect, are the costs to the economy induced by a reduction in aggregate demand outweighed by benefits accruing from a hypothetical increased productivity of the private sector? If this is not the case, then there can be no mandate for undertaking this policy intervention. Indeed, it would result in a net cost for the regions as well as for the entire national economy.

1.2 Methodology

We use the *econ-i* software development for the purpose of synthesizing and use the North-East and South-West regional accounts. The software

includes an input-output model allowing for multiple scenario analyses and including multiplier effects of different interventions, shocks or transformations in regional economic structures. Input-output analysis has limits, e.g. not properly accounting for structural or non-linear transformations[44]. An alternative possibility is to use computable general equilibrium models which equally present inherent limits despite accounting considerably better for structural change. Nonetheless, the present policy is "marginal" in the sense that it proposes a limited downwards adjustment to public-sector wages and therefore its scale and magnitude does not affect the entire structure of regional economies, as well as price levels, productivity, property values etc. As a result, an input-output approach seemed to us more defensible in the context of this specific study.

Figure 1: A basic overview of the *econ-i* software[45]



A scenario function allows us to investigate the implications of a change in the regional economies on employment, output and GVA. Through the use of multipliers, the net effect encompasses both direct and indirect impacts, e.g. a reduction of purchasing power reduces output by X% (*1st round*) which in turns implies a reduction of purchasing power Y% (*2nd round*) and another reduction in output Z% (*3rd round*). In short, this constitutes a complete impacts analysis, even more so given the inclusion of regional exports and imports, for instance, including consumption "leakages" within the model.

We have used this valuable model function to build a selection of scenarios which vary according to applied assumptions around firstly, the extent to which crowding-out exists, and secondly, the scale of inter-regional export impacts (ie: the extent to which the economic activity of a region is impacted by a reduction in aggregate demand in surrounding regions). For our analysis of employment and budgetary impacts we took additional considerations into account as follows: (1) assumptions around the applicable tax rate, and (2) the public finance costs of unemployment. Overall scenarios 1 to 4 model the impacts of reduced public sector pay assuming crowding out exists to different degrees. Scenarios 5 and 6 forecast impacts assuming there is no crowding out. More detail is given in the next section.[46]

2. Modelling

The modelling procedure was as follows:

- Constructing a model in which regional public sector wages would be frozen in nominal terms for successive years would have required a dynamic framework in which outputs from the model could have been fed back into the model as input variables; this was beyond the capabilities of the *econ-i* software given the time available for project research and model estimation. We chose a simpler method: modelling the impacts of a reduction in public sector pay by a percentage sufficient to match the net estimated differentials between private and public sector regional pay, taking into account education levels and work position.
- The model is static, which means it considers an instantaneous transition whereby public sector wages equalise with private sector wages. In other words public sector wages become immediately responsive to regional labour markets. In short, the model aims to answer the question: what would happen if the public-private differential were to suddenly disappear?
- The model therefore represents the impact of passing from one equilibrium state to another for regional economies. In the real world of course, this process of equalisation would be gradual not instantaneous.
- Indeed we recognise that a single overnight reduction in pay such as this is not what the Government is proposing. As noted earlier in this paper, little detail has been made available about how the policy might work in practice. However, the rhetoric around aligning public and private sector pay from Ministers and in the Government evidence implies a year-on-year freeze to public sector pay to eventually bring it into line with average private sector rates. Over the years this would have the effect of a cut in real-terms pay, which is the scenario used in the modelling.
- Using data from the ONS we estimated public-private wage differentials for 2012 by region. The data is often contradictory. While some studies indicate, for instance, higher average public wages than private wages in London and the Southeast, other data does not. We used data from the IFS which estimates both the raw public/private differential and a differential corrected for employee characteristics in each region – including a differential for London and the Southeast.
- The reduction in demand resulting from this exercise is, on average, valued at £1,044 million per region. A regional breakdown of total reduction of disposable income is presented in Table 2.

Table 2: Total loss of disposable income per region

Region	Disposable income loss (£m)[47]
London	1431
South East	85
East Anglia	1476
North West	1131
West Midlands	1310
South West	1197
Yorkshire & Humber	1611
East Midlands	992
Wales	507
North East	702
Total	**10446**

- Using the econ-i model, we forecasted the change resulting from this adverse shock on demand for the North-East and the South-West – cases in which the software has been specifically developed. Results provided us with (a) GVA impacts, (b) gross output impacts, and finally (c) employment impacts (expressed as FTEs[48]).
- Simply re-using the multipliers of the North-East and South-West for other English regions and Wales would have been imperfect given important differences. As a result, we used regression analysis to determine which structural factors, e.g. size of manufacturing sector, size of public expenditures, size of imports and exports, are significant in explaining the total multiplier impacts on GVA and employment of an adverse shock in demand. This allowed us to determine multiplier coefficients for other regions, depending on their specific economic structures.
- Using ONS datasets, we subsequently constructed sensibly simpler input-output tables for other regions, which provided us with results for the impact of introducing localised public sector pay on (a) GVA, (b) gross output, (c) employment impacts (FTEs) controlling for the main regional specificities.
- The results allowed us to depict the costs of this policy choice, expressed in terms of GVA, employment and finally fiscal impacts – derived from secondary data.
- The fact that the impacts of this policy choice will be cross-regional implied that the impacts on individual regional GVAs should also take account of adverse effects on exports to the other regions considered in this analysis. Indeed, regional GVA gains or loss would have been incomplete without considering the effects of a reduction in household income, and thus aggregate demand, in the other regions of the country. In other words, we take knock-on effects on demand in other regions into account when estimating the effect of introducing localised public sector pay in any given region.

- For this purpose, we used two extremely modest modelling assumptions on which we successively built two modelling scenarios. Out of the reduction in household income implied by this policy choice, we assumed that either 1% or 5% of consumption would have been of goods or services imported from other English regions – or Wales. Admittedly, the actual percentage should and could be higher but this in our view constitutes a modest assumption in face of lack of sufficient evidence on the regional income elasticity of demand for goods imported from other UK regions.
- Using the econ-i model we ran these additional scenarios which provided us with the full amount of costs of public sector pay localisation, again expressed in terms of GVA loss and employment loss.
- Alongside these costs, we juxtaposed the potential benefits of the policy proposal assuming three crowding out scenarios: (1) "no crowding out", (2) modest crowding out, and (3) high crowding-out. These scenarios were based upon the recent study conducted by Faggio and Overman[49].
- In order to examine the impact of a reduction in average public sector wages on private sector employment we calculated an equivalent to a cut in public wages in terms of public sector jobs, e.g. if the overall cut in a region is of the order of £90,000 and mean annual public sector wage is of the order of £30,000 then a £90,000 reduction in public sector pay (regardless of how this reduction is distributed) is the equivalent of cutting three public sector jobs. However, because public sector aggregate employment is not in fact reduced, one should expect the crowding out effect to be lower. Total public employment levels remain intact. We therefore use ½ the figure Faggio and Overman propose in a high crowding out scenario and ¼ in a low crowding out scenario, i.e. a reduction in pay equivalent to one public sector job is assumed to create 0.2 jobs (with high crowding out) and 0.1 jobs (with low crowding out) in manufacturing industry in each region.
- Finally, under the different scenarios and combinations of scenarios, we measured the potential net fiscal impacts of this policy option. This included: (a) the direct fiscal benefits (savings) of a reduction of expenditure (i.e. via a reduction of public sector wages), (b) the direct loss of tax income as a consequence of reduction of public sector wages, (c) the indirect loss of tax income as a consequence of GVA reduction and unemployment induced, (d) the indirect tax benefits and avoided unemployment costs in scenarios where the crowding out hypothesis was applied.

These steps allowed us to confront both costs and potential benefits both across English regions and Wales as well as, on aggregate, for England and Wales as a whole.

3. Results

Results are broken down by region and at a national level as follows: (a) net GVA impacts; (b) net employment impacts; (c) net fiscal impacts. Table 3 presents net GVA impacts, i.e. potential benefits minus costs; table 4 net employment impacts; and table 5 net fiscal impacts. Results present the range of outcomes derived through the modelling exercise.

In a nutshell, our findings suggest that even if we assume there is a pay premium in the public sector, a reduction of regional public sector pay to reach the level of average regional private sector pay would have extremely

adverse impacts on the output of regional economies – and thus on the British economy.

Overall, implementing regional public pay produces net costs, i.e. a net reduction in GVA, for all regions (as shown in table 3). The magnitude of this reduction varies across regions. Nonetheless, it is worth noting that under a best case scenario, in which (a) a crowding out effect is assumed to exist and thus private employment increases as a consequence of the policy and (b) interregional trade is impacted to a very modest extent, the costs still outweigh the benefits. Under a best case scenario net costs represent 0.12% of UK GDP – a far from negligible reduction. Most importantly, in a scenario in which the crowding out hypothesis proves not to hold and interregional trade is strongly affected by the reduction in aggregate demand, the net costs would reach £9.7 billion, equivalent to 0.76% of total UK GVA, or 0.43% of UK GDP.

One logical objection to this analysis could be that an overnight reduction in public sector pay is unlikely. This is true, but it is also true that a cumulative freeze in public sector pay across a number of years will ultimately have the same cumulative impacts on GVA – albeit in a "smoother" way. This objection does not contradict the fact that the policy would have an overall negative cost-benefit impact in terms of a loss of GVA. Freezing public sector wages, rather than implementing a one-off cut, might impose lower economic costs, but equally the benefits, in terms of a symmetrical increase in private sector employment, would also be lower. As a result, the proposed intervention will still lead to a net GVA reduction in all British regions.

We further modelled employment impacts, expressed in full-time equivalent (FTE) workers, under different scenarios. Results are presented in Table 4. The employment impact is positive only under scenario 2 which assumes high crowding out. In this case the reduction in public sector pay leads to a relatively high increase in private sector employment. In all other scenarios, unemployment rises, resulting in job losses ranging from roughly 26,000 jobs lost to an extreme of 110,000 jobs lost on a national level. Except for scenario 5 and 6, all other scenarios assume that the crowding out hypothesis holds and thus some job creation in the private sector as a consequence of a reduction in public sector pay. As such, all scenarios represent net impacts, i.e. after accounting for a possible increase of private sector employment.

We finally considered the direct impact of each scenario on public finances, i.e. public revenue and expenditures. The impacts considered include: (1) the cost savings induced by a reduction of public sector pay, i.e. decreased expenditure; (2) a reduction of tax income as a consequence of decrease in economic activity; (3) costs of additional unemployment or benefits of additional employment, expressed as avoided costs. In this case, most scenarios indicate very modest net cost savings – excepting scenario 6. Indicatively, the gains to the public purse are of the order of between an insignificant 0.03% and 0.13% of the 2012 UK budget. In other words, the overall cost savings induced by a reduction in public sector pay are substantially lower than the initial decrease in public expenditure.

Table 3: Net GVA impact (benefits minus costs) under different scenarios - including crowding out scenarios[50]

	GVA (£m) *Scenario 1*	GVA (£m) *Scenario 2*	GVA (£m) *Scenario 3*	GVA (£m) *Scenario 4*	GVA (£m) *Scenario 5*	GVA (£m) *Scenario 6*
London	-868	-581	-708	-994	-1,155	-1,281
South East	-93	-69	-271	-295	-117	-320
East Anglia	-777	-350	-526	-953	-1,204	-1,379
North West	-610	-292	-453	-770	-927	-1,088
West Midlands	-679	-296	-432	-815	-1,062	-1,199
South West	-645	-300	-495	-840	-990	-1,185
Yorkshire & Humber	-844	-374	-561	-1,031	-1,313	-1,500
East Midlands	-544	-258	-458	-744	-829	-1,029
Wales	-303	-156	-367	-513	-450	-660
North East	-396	-199	-367	-564	-593	-761
Total	**-5,459**	**-2,723**	**-4,274**	**-7,010**	**-8,195**	**-9,746**
As % of UK GVA	*-0.42*	*-0.21*	*-0.33*	*-0.55*	*-0.64*	*-0.76*
As % of UK GDP	*-0.24*	*-0.12*	*-0.18*	*-0.31*	*-0.36*	*-0.43*

N.B: A minus sign indicates a loss of GVA while no sign is synonym of a gain in GVA

Table 4: Net employment impacts across different scenarios – including crowding out scenarios

	FTEs *Scenario 1*	FTEs *Scenario 2*	FTEs *Scenario 3*	FTEs *Scenario 4*	FTEs *Scenario 5*	FTEs *Scenario 6*
London	-5321	-1692	-7468	-3839	-9353	-11500
South East	-2182	-1876	-6516	-6211	-2521	-6856
East Anglia	-3579	3021	-7332	-732	-9579	-13332
North West	-3657	1703	-6539	-1179	-8124	-11005
West Midlands	-3349	3710	-5789	1270	-8738	-11177
South West	-2689	2161	-7621	-2771	-7539	-12471
Yorkshire & Humber	-3672	2726	-7799	-1401	-10267	-14394
East Midlands	-3109	908	-7525	-3508	-7126	-11542
Wales	-2598	229	-7241	-4414	-4662	-9305
North East	-2882	194	-6221	-3145	-5654	-8993
Total	-33039	11083	-70051	-25929	-73563	-110576

N.B: A minus sign indicates a reduction in employment expressed in FTEs while no sign indicates an increase in employment levels

Table 5: Net fiscal impacts across different scenarios – including crowding out scenarios

	Budget (£m) *Scenario 1*	Budget (£m) *Scenario 2*	Budget (£m) *Scenario 3*	Budget (£m) *Scenario 4*	Budget (£m) *Scenario 5*	Budget (£m) *Scenario 6*
London	- 116	- 145	-99	-128	-84	- 67
South East	93	90	127	125	95	130
East Anglia	-115	- 168	-85	-138	-67	- 37
North West	-70	-113	-47	-89	-34	- 11
West Midlands	-110	-166	- 90	-147	- 66	- 47
South West	-72	- 111	-32	-71	-33	5
Yorkshire & Humber	-129	-181	-96	-148	-77	- 44
East Midlands	-36	-68	- 0.980	-33	-4	31
Wales	36	14	73	51	53	90
North East	-8	- 33	17	-6	13	40
Total	**-529**	**-882**	**-233**	**-586**	**-205**	**90**
As % of UK Budget	-0.08	-0.13	- 0.03	-0.09	-0.03	0.01

N.B: A minus sign is synonym of a gain for the State, i.e. reduction of expenditures, while a no sign means an increase of expenditures

It is worth noting that the above figures include only direct effects. Additional indirect effects on public expenditure would more probably than not cancel out the modest budgetary benefits. The indirect effects could include, among other elements: (1) additional health expenditures induced by an increase in unemployment[51]; (2) high productivity costs induced by long-term unemployment[52]; (3) the potential costs of social exclusion, which could be increased with higher unemployment and overall reduction in regional economic activity[53]. Overall, we assess that in the long-run, the real fiscal impact could be neutral in the best case and negative in the worst case.

4. Conclusion to Part 2

Our preliminary modelling of the impact of localising public sector pay suggests that if public sector wages were to be equalised with private sector wages in English regional economies and Wales, the economic costs would be substantial even if the crowding out hypothesis holds. Evidently this assumes that there is a “wage premium” for public sector pay, which as we described in Part 1 of this report is an extremely debatable assertion.

Through the modelling exercise, we find that (1) all regions will experience a decline in GVA; (2) unemployment can be expected to rise substantially even if we assume an increase in private sector hiring; (3) the direct fiscal effects could be positive, albeit of a virtually insignificant magnitude. Accounting for indirect effects, such as impacts on quality of life, including health, means there is a likelihood that any cost savings would disappear.

The modelling we have undertaken in this research only consists of a preliminary analysis. Nonetheless, we have found no other study to date seeking to quantify the impacts of localisation of public sector pay. This report therefore seeks to launch a debate.

While acknowledging that the quantitative analysis can be substantially improved and proofed to represent additional impacts in a more detailed manner, it is now incumbent on the proponents of this policy to make a rational case for the proposal. Our findings contradict the assertion that the policy being considered would improve the economic conditions of regional economies.

Our analysis stops short of considering the distributional impact across income and equality groups. However, several have already pointed out that:

1. As the perceived public sector "premium" is wider for those at the lower end of the pay scale any policy to localise pay will affect low-income earners most.
2. Female workers are another key group seen to be benefiting from public sector pay arrangements. Localising pay could potentially reverse any gains that have been made in tackling the gender pay gap within the public sector and penalise women over others.
3. Taken together, points 1 and 2 above mean that women on low-incomes would be hardest hit.[54, 55]

These findings combined with our own analysis leads us to predict that it will be the lowest public sector earners in the poorest regions which will have the most to lose from attempts to localise pay. Looking beyond the distributional impacts on those working in the public sector, it is worth noting that a decline of economic activity at either the national or regional level is likely to most adversely affect the poor[56] and that this would come on top of austerity measures deemed to be regressive.[57] In conclusion, localising public sector pay is likely to result in multiple equality implications at the national, regional, neighbourhood and individual level.

Conclusion: The use of economics as a “fig leaf” for politics?

We conclude from this research that the Government does not have a robust basis of evidence for introducing measures intended to make public sector pay more local and market facing. Supporting evidence from economics for the effectiveness of such a change is lacking across the spectrum from theory, to empiricism, to observation. It is important and relevant, however to consider that, whilst it is not discussed in this light, this issue appears within the broader context of change in the political approach to public services, including efforts to reduce public expenditure and introduce more localism.

It is unclear that the Government has carried out any modelling of the potential economic impacts at regional or national level – if it has, results do not appear to have been published.

We have undertaken a first-stage modelling exercise. Given time and resource constraints, this exercise has its limitations, but on the basis of conservative assumptions we assess that the costs of the policy proposal would, under all scenarios considered, outweigh the benefits.

The modelling exercise has been based on an analysis in which the economic costs of the proposal are experienced through a reduction in aggregate demand at regional and national levels as public sector workers’ disposable income falls. These effects can be modelled with certainty. On the other hand the economic benefits depend on a fall in public sector wages inducing an increase in employment in the private sector (and this despite the fall in aggregate demand). We have no certainty about the presence or scale of this effect so the benefits, in contrast to the costs, are highly uncertain. Even so, in all cases we find that the potential benefits are clearly insufficient to outweigh the costs.

We find that, as would be expected, some regions would experience a higher net loss than others. This serves to highlight how already disadvantaged areas would experience a further relative decline. We have set out, in our qualitative analysis, to describe how the proposal to localise public-sector pay would undermine the principle of surplus recycling. This is not a simple principle of providing “assistance” to more deprived areas, it is a key macro-economic policy driving overall prosperity in wealthier as well as poorer regions.

Beyond an economy-wide impact, at either regional or national level, it is critical to understand the socio-economic distributional consequences of a change in public sector pay. Certain groups are likely to experience the impacts more acutely than others because of the profile of public and

private sector employment and remuneration. Research is clear that those who are likely to be most affected by the Government's proposal will be women and low earners.[58] It was, unfortunately, beyond the scope of this study to attempt to model distributional effects.

Overall, the policy proposal put forward by the chancellor of the exchequer has little to commend it from the economic evidence. Apart from issues of fairness and broader social implications, our research indicates that it would be at least inefficient, and at worst extremely damaging in economic terms.

Recommendations for further research

As we have highlighted, this research is the first attempt as far as we know at modelling the economic impacts of localising public sector pay. It was beyond our scope to model a distributional analysis, but an understanding of the distributional consequences would be essential if this proposal goes further. We recommend that work is required to establish the case for how changes in pay would affect different groups in society.

In addition, we think it would be valuable for further work to build on the first-stage model discussed in this research. Further sophistication would allow us to see important inter-linkages across different parts of the economy, verify and build confidence in the results, and examine how impacts would circulate over time.

Glossary

Crowding-in: Payment of wages to public sector workers injects spending into the economy, creating consumption demand and positive multiplier effects through public-sector workers' spending on goods and services.

Crowding-out: The crowding-out hypothesis assumes that public and private sector employers compete for workers, and that higher public sector wages will raise costs for the private sector, thus reducing firms' demand for workers and competitiveness

Gross Value Added (GVA): GVA measures the contribution to the economy of each individual producer, industry or sector. GVA is used in the estimation of Gross Domestic Product (GDP).

Gross Domestic Product (GDP): GDP is the headline measure of the activity of the economy. It can be measured in three ways: (1) calculating the value of the goods and services produced by all sectors of the economy; (2) calculating the value of the goods and services purchased by households and Government, including investment in machinery and buildings, and accounting for the value of exports minus imports; (3) measuring the value of income generated in the economy mostly in terms of profits and wages. All three methods should yield the same estimate.

Input-output model: This is an econometric technique for representing the interdependencies of different industries and sectors in a regional or national economy. It is able to demonstrate how the outputs from one part of the economy constitute inputs to another part. Using input-output models it is possible to estimate the effects of an event affecting the economy, including a policy change.

Pay premium: In the context of this research, pay premium refers to differentials in pay between public and private sector occupations, adjusting for certain characteristics such as qualifications, and age. As explained in the report, this is a somewhat loaded and contested term.

Endnotes

[1] HM Treasury (2011) *Autumn Statement*, http://cdn.hm-treasury.gov.uk/autumn_statement.pdf, pp 37

[2] Available on the Office of Manpower Economics website, www.ome.uk.com

[3] *Local and regional pay in the public sector* (March 2012) TUC response to OME call for evidence

[4] As suggested by Office of Budget Responsibility projections: Office for Budget Responsibility (2010) Budget forecast June 2010. (London: OBR)

[5] Aggregate average comparisons: (1) Emmerson, C., Johnson, P. and Miller, H. (eds.) (20120) *IFS Green Budget 2012*. Institute for Fiscal Studies. (2) *Estimating differences in public and private sector pay* (2011) Office for National Statistics

[6] Gomes, P. (2010*) Fiscal Policy and the Labour Market: The Effects of Public Sector Employment and Wages*. London School of Economics and IZA. Discussion Paper No. 5321

[7] Krimpas, G.E., (2010) *The recycling problem in a currency union*. Levy Economics Institute, Working Paper No 595.

[8] Emmerson, C., Johnson, P. and Miller, H. (eds.) (20120) *IFS Green Budget 2012*. Institute for Fiscal Studies. *Estimating differences in public and private sector pay*. (2011) Office for National Statistics.

[9] Ma, A., Battu, H., and Elliot, B. (2009) *Local pay differences and vacancy rates for school teachers in England and Wales*. Commissioned by Office of Manpower Economics. Burgess, S.,Gossage, D., and Propper C. (2003) *Explaining differences in hospital performance: does the answer lie in the labour market*? Centre for Economic Policy Research. Propper, C., Van Reenan, J., and Hall E. (2010) *Can pay regulation kill? Panel data evidence on the effect of labour markets on hospital performance*. Centre for Economic Performance, CEP Discussion Paper 843

[10] For example, *Regional and local market pay in Wales: Evidence summary submitted for consideration by the Pay Review Bodies* (2012). Welsh Government, Knowledge and Analytical Services.

[11] See footnote 8

[12] Ma, A., Battu, H., and Elliot, B. (2009*) Local pay differences and vacancy rates for school teachers in England and Wales*. Commissioned by Office of Manpower Economics.

[13] See for example: *Regional and local market pay in Wales: Evidence summary submitted for consideration by the Pay Review Bodies* (2012). Welsh Government, Knowledge and Analytical Services*; Local and regional pay in the public sector* (March 2012) TUC response to OME call for evidence

[14] Blackaby, D.H., Murphy, P.D., O'Leary, N.C., Staneva, A.V. (2012*) Investigation of IFS public-private sector pay differential: A robustness check.* Swansea University, Department of Economics, Discussion Paper Series.

[15] Incomes Data Services (2012) *Regional variations in pay for UK graduates and graduate comparator occupations – the regional pay debate*. A research report for the Six Teacher Unions – ASCL, ATL, NAHT, NUT, UCAC, Voice.

[16] Quote from interview conducted by CLES for the TUC, June 2012

[17] *Local and regional pay in the public sector* (March 2012). TUC response to the OME call for evidence

[18] See for example Gomes, P. (2010) *Fiscal Policy and the Labour Market: The Effects of Public Sector Employment and Wages*. London School of Economics and IZA. Discussion Paper No. 5321

[19] *Location-based pay differentiation: A research report for UNISON* (September 2011) Incomes Data Services; and Shaheen, F., and Seaford, C. (2012) Good jobs for non-graduates. London: nef.

[20] Bell, M., Elliot, R. F, Ma, A., Scott, A., Roberts, E. (2007) *The Pattern and Evolution of Geographic Wage Differentials in the Public and Private Sector in Great Britain*. The Manchester School, 75(4): 1463-6786.

[21] Brewer, M., Emmerson, C., and Miller, H. Eds. (2011) *IFS Green Budget 2011*. Institute for Fiscal Studies

[22] See for example, Lamo, A., Perez, J. J., and Sanchez, A., J. (2009*) Crowding-in or crowding-out? Employment in the public and private sectors in the OECD*. http://www.um.es/dp-hacienda/eep2010/comunicaciones/eep2010-81..pdf ; and Bradley, J., Postel-Vinay, F., and Turon, H (2011*) Public Sector Wage Policy and Labor Market Equilibrium: A Structural Model*. University of Bristol.

[23] Interviews conducted by the Centre for Local Economic Strategies (CLES), June 2012.

[24] Both the British Chambers of Commerce (BCC) and the Confederation of British Industry (CBI) run surveys on business demands. See for instance BCC (2011) *Skills for businesses: More to learn?* and the *Education and Skills Annual Survey* conducted by CBI.

[25] Taylor, C. (March 2012) *IoD response to call for evidence on market-facing pay in local areas*. Institute of Directors.

[26] Interviews conducted by the Centre for Local Economic Strategies (CLES), June 2012.

[27] Shaheen, F., Haywood, R. (2009) *Filling the jobs gap: Why enterprise-based regeneration is not working*. London: nef.

[28] Civil Service Statistics (March 2012) http://www.civilservant.org.uk/numbers.pdf

[29] Author discussions with Incomes Data Services

[30] *Regional variations in pay for UK graduates and graduate comparator occupations – the regional pay debate*. A research report for the Six Teacher

Unions – ASCL, ATL, NAHT, NUT, UCAC, Voice. (May 2012) Incomes Data Services

[31] G. Faggio, H.G Overman (2012), *The effect of public sector employment on local labor markets*, SERC discussion paper 111

[32] G. Faggio, H.G Overman (2012), *Op. Cit*.

[33] Akerlof and Yellen (1985) *A Near Rational Model of the Business Cycle with Wage and Price Inertia*, Quarterly Journal of Economics, 100 (Supplement), 823-38

[34] Ackerman, F. (2002), *Still dead after all these years: interpreting the failure of general equilibrium theory*, Journal of Economic Methodology, 9, (2), 119-139

[35] B.H. Mitra-Kahn (2008), *Debunking the myths of Computable General Equilibrium models*, SCEPA working paper 2008-1

[36] See: Felipe and Kumar (2012), *Unit labor costs in the Eurozone: the competitiveness debate again*, Levy Economics Institute, Working Paper No. 651; Hidalgo and Haussmann (2009), *The building blocks of economic complexity*, Proceedings of the National Academy of Sciences, 106(26):10570-10575; Helpman. and Krugman (1985), *Market Structure and International Trade*, MIT Press

[37] N. Kaldor (1978), *The Effect of Devaluations on Trade in Manufactures*, in Further Essays on Applied Economics, Duckworth.

[38] J. Fagerberg (1996), *Technology and competitiveness*, Oxford Review of Economic Policy, 12(3):39-51.

[39] H-J. Chang (2002), *Kicking away the ladder: development strategy in historical perspective*, Anthem press, London

[40] Interviews conducted by CLES for the TUC, June 2012

[41] G.E Krimpas (2010), *The recycling problem in a currency union*, Levy Economics Institute, Working Paper No 595.

[42] Indeed, the issue of surplus recycling was first addressed by J.M. Keynes when designing the post-1945 order at the Bretton Woods conference; later, this theory was applied for explaining surplus recycling within Nation-States or federations. See: J. M. Keynes (1980*). Activities 1940–1944. Shaping the Post-War World: The Clearing Union*, Collected Writings of John Maynard Keynes, volume 25. London: Macmillan. And for the application of this concept to Nation-States: J. Sapir (2012), *Faut-il sortir de l'Euro?* Paris: Le Seuil; and G.E. Krimpas (2010) *Op. Cit*

[43] Y. Varoufakis, J. Halevi, N. Theocharakis (2011), *Modern political economics: Making sense of the post-2008 world*, London: Routledge.

[44] For full discussion of limitations of input-output models see H. D. Kurz, E. Dietzenbacher, C. Lager (1998), *Input-Output Analysis*, Cheltenham: Edward Elgar

[45] An overview of the *econ-i* model functioning is available at: http://www.dur.ac.uk/StChads/prg/regmodel.html and http://www.economicsystems.co.uk/south-west/index.php

[46] And a full explanation of each of the scenarios can found in the technical appendix.

[47] £2011

[48] Full-Time Equivalent

[49] Faggio and Overman (2012) *Op. Cit.*

[50] N.B: All figures have been converted to £2011

[51] See for instance: D. Dorling (2009*). Unemployment and health: Health benefits vary according to the method of reducing unemployment*. BMJ, 338, b829

[52] I. Schroeder (2010) *A year or more: the high costs of long-term unemployment*, Pew Economic Policy Group, Fiscal Analysis Initiative

[53] S. McNally and S. Teljah (2007) *The cost of exclusion*, The Prince's Trust & The Centre for Economic Performance, London School of Economics.

[54] *Regional and local market pay in Wales: Evidence summary submitted for consideration by the Pay Review Bodies* (2012). Welsh Government, Knowledge and Analytical Services.

[55] *Local and regional pay in the public sector* (March 2012) TUC response to OME call for evidence

[56] For affect of this recession on poor across OECD countries see Jenkins, S. P., Brandolini, A., Micklewright, J., Nolan, B. (2011) *The Great Recession and the distribution of income*. Retrieved 9 July 2012 from http://www.frdb.org/upload/file/report_1_palermo.pdf

[57] Browne J. and P. Levell (2010) *The distributional effect of tax and benefit reforms to be introduced between June 2010 and April 2014: a revised assessment*. IFS Briefing Note. London: The Institute for Fiscal Studies.

[58] See for example *Regional and local market pay in Wales: Evidence summary submitted for consideration by the Pay Review Bodies* (2012). Welsh Government, Knowledge and Analytical Services.

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