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The lifetime earnings premium in the public sector: The view from Europe ☆

Matt Dickson [a,b,c], Fabien Postel-Vinay [c,d,e,f], Hélène Turon [c,g,*]

[a] Department of Social and Policy Sciences, University of Bath, Bath BA2 7AY, UK
[b] CMPO, UK
[c] IZA, Germany
[d] Department of Economics, University College London, Drayton House, 30 Gordon Street, London WC1H 0AX, UK
[e] CEPR, USA
[f] IFS, UK
[g] Department of Economics, University of Bristol, 8 Woodland Road, Bristol BS8 1TN, UK

HIGHLIGHTS

- We estimate a model of earnings and employment (and sector choice) dynamics.
- We use data from ECHP 1994-2001 for Germany, the Netherlands, France, Italy, Spain.
- We find differences in earnings mobility and job loss risk between sectors.
- We find unobserved heterogeneity in mobility and earnings levels and dynamics.
- When aggregated into lifetime values these components yield substantial differences.

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ABSTRACT

In a context of widespread concern about budget deficits, it is important to assess whether public sector pay is in line with the private sector. Our paper proposes an estimation of differences in lifetime values of employment between public and private sectors for five European countries. We use data from the European Community Household Panel over the period 1994–2001 for Germany, the Netherlands, France, Italy and Spain. We look at lifetime values instead of wage levels because, as we show in our results, differences in earnings mobility, earnings volatility and job loss risk across sectors occur in many instances and these will matter to forward-looking individuals. When aggregated into a measure of lifetime value of employment in either sector, these differences yield estimates of the lifetime premium in the public sector for these five countries. We also present differences in the institutional and labour market structures in these countries and find that countries for which we estimate a positive lifetime premium in the public sector, i.e. France and Spain, are also the countries where access to the public sector requires costly entry procedures. This paper is to the best of our knowledge the first to use this dynamic approach applied to Europe, which we are able to do with a common dataset, time-period and model.

1. Introduction

The public sector wage bill accounts for about a fifth of government spending across most European countries.[1] In a context of widespread concern about budget deficits and policies implemented to reduce the size of government expenditure, it is important to assess whether public

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* Corresponding author.
E-mail addresses: m.dickson@bath.ac.uk (M. Dickson), f.postel-vinay@ucl.ac.uk (F. Postel-Vinay), helene.turon-lacarrieu@bris.ac.uk (H. Turon).
URL's: http://www.bath.ac.uk/sps/staff/matt-dickson (M. Dickson), https://sites.google.com/site/fabienpostelvinay (F. Postel-Vinay), http://www.efm.bris.ac.uk/economics/staff/turon (H. Turon).

[1] See Section 3.1 for detailed figures.

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sector pay is in line with the private sector.[2] Comparisons of pay conditions between the public and the private sector matter for several reasons: the public sector wage bill being paid out of taxpayers' money makes it a politically sensitive issue; public sector pay being to some extent insulated from market forces may drive a wedge between public and private remunerations and increase inequality; finally, were public sector pay to become relatively unattractive, recruitment and retention in the public sector workforce would become difficult. Our paper proposes an estimation of differences in lifetime values of employment between public and private sectors for five European countries.

We show that the comparison of lifetime values instead of wage levels is relevant because dynamic differences in earnings mobility, earnings volatility and job loss risk across sectors occur in many instances and these will matter to forward-looking individuals. Whilst a large body of literature has examined differences across sectors in terms of pay levels or pension systems (see Emmerson and Jin (2012) for a recent contribution), very little attention has been given to the comparison of lifetime values aggregating the various dimensions of differences into a single measure relevant to individual sector choice. Moreover, we document differences in institutional settings regarding public sector pay, progression, employment and pension systems across the countries we study and find interesting correlations between barriers to entry into public sector jobs and lifetime premia. Whilst it is beyond the scope of this paper to propose and estimate a theoretical mechanism linking institutions and lifetime premia, we claim that the cross-country comparison that we carried out is a useful step for future research aiming to model the existence of a (partial) equilibrium lifetime premium as a result of sector-specific institutions.

In terms of method, we use the estimation strategy proposed in Postel-Vinay and Turon (2007) to estimate jointly the four components of the public–private "premium", namely: levels, mobility and volatility of earnings and job loss risk whilst controlling for selection between sectors according to observed and unobserved characteristics. We use data from the European Community Household Panel over the period 1994–2001 for Germany, the Netherlands, France, Italy and Spain.[3] We find evidence of marked differences between the public and private sectors with regard to earnings mobility, earnings volatility and job loss risk, as well as earnings levels. When aggregated into a measure of lifetime value of employment in either sector, these differences yield estimates of the lifetime premium in the public sector for these five countries. In order to put these differences into their institutional context, we also present differences in the institutional and labour market structures in these countries that may translate into the dynamic differences that we estimate. This paper is to the best of our knowledge the first to use this dynamic approach applied to Europe, which we are able to do with a common dataset, time-period and model.

Our main findings can be summarised as follows. We find substantial cross-country disparities in lifetime public premia as well as differences in institutional settings with respect to public sector recruitment and pay determination. We show evidence of significant unobserved heterogeneity, both in terms of labour market mobility and earnings levels and dynamics. After controlling for selection, sizable differences are found in the following dimensions and countries: cross-sectional incomes are 11 log-points higher in the public sector than in the private sector in Spain, 3 log-points higher in France and 4 log-points higher in Italy. The dispersion of public sector incomes is substantially lower than their private sector equivalent in the Netherlands and Spain, whilst public sector incomes are more persistent in Italy. Returns to experience are higher in the public sector in Germany but lower in Italy and Spain. Finally, contrary to public perception, job security is not significantly greater in the public sector once selection is taken into account. The job loss rate is actually *higher* in the public sector in Germany than it is in the private sector.

When aggregated into lifetime values (the construction of which we describe below), the above components yield substantial positive premia in the middle and lower parts of the distribution of lifetime values in France and Spain. However, workers at the top of the distribution in the Netherlands are worse off in the public sector in the long term. The cross-sector difference in income inequality in Spain appears to be related to the transitory component of earnings, whereas for Germany and the Netherlands it is a more permanent feature of the distributions.

Putting these results in the context of local institutions offers plausible causal mechanisms behind the existence of a public sector lifetime premium. In France and Spain, substantial barriers to access to public sector jobs are in place in the form of demanding and lengthy entry examinations. These are also the countries where we find significant lifetime premia in the public sector. Whilst we do not claim to show any causal effect between these two observations, we note that they are consistent with a partial structural model of individual sector choice based on lifetime values and cost of public sector entry.

The paper proceeds as follows: the related literature is reviewed in the next section, followed by a description of the institutional context of each country in Section 3 and a descriptive analysis of each country's data in Section 4. The statistical model to be estimated is detailed in Section 5, with the results analysed in Section 6. The lifetime values of employment in each sector are computed in Section 7 allowing us to contrast the public–private differences accounting for earnings and job mobility with straightforward cross-sectional earnings differences. How these findings relate to the labour market structures in each country is considered in Section 8 before Section 9 concludes.

2. Related literature

This paper relates to two different literatures: the public–private pay differences literature, and the literature on income mobility and lifetime inequality. Within the public–private literature, this paper contributes by presenting an application of this dynamic modelling approach and by deriving a set of estimates of public–private pay gaps across a number of major European countries, estimated with a common model on data from a homogenized, multi-country longitudinal data set. Relating countries' lifetime premia to their institutional and labour market structures offers a plausible explanation for our findings, especially since we can rule out dataset, time-period or modelling approach as the source of any differences.

As noted in the introduction, the vast majority of the public-pay gap literature concentrates on cross-sectional differences in wages and on the extent to which these can be explained by non-random selection into sector (see Disney and Gosling, 2003, for the UK, Dustmann and van Soest, 1998; Melly, 2005, for Germany, Hartog and Oosterbeek, 1993; Van Ophem, 1993, for the Netherlands, Bargain and Melly, 2008, for France, and Lassibille, 1998, for Spain).

Explicit cross-country comparison of public–private wage differentials is rare, however Lucifora and Meurs (2006) investigate public-pay gaps in Britain, France and Italy. For France and Italy they conclude that the private sector use of collective bargaining and union power results in a pay setting system based heavily on rewarding observable characteristics (education, experience), which can explain the most part of the public sector wage gap. The quantile regression analysis echoes Melly's findings for Germany, suggesting that as one moves up the distribution, the proportion of the pay gap explained by observable characteristics increases, whereas in the lower quintiles differences in unobserved characteristics are more important in explaining pay differences. These results for France and Italy are corroborated by Ghinetti and Lucifora (2007) using ECHP data from the final wave, 2001.

[2] See for example Giordano et al. (2011) and Glassner (2010) for recent European reports on public sector pay.

[3] More on why these countries and no others were used in Section 4 below. The focus on a "pre-crisis" period allows us to assess the differences of interest before various policies were put in place to alter one dimension or another of public–private differences in pay, employment and pension conditions.