Labour Slack Estimates
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In a flexible labour market in which the precariat is growing, the official unemployment rate becomes an increasingly unreliable measure of the extent of labour underutilisation, simply because many forms of labour status involve involuntary part-time labour, lay-offs in which people are not formally severed from jobs, and so-called ‘discouraged worker’ situations where people are available for jobs but have given up seeking through repeated failure.

In an attempt to capture the main aspects of all this, and devising the formula solely on what was feasible with available official data, I produced a series of measures of aggregate labour slack. The measure has been applied to most EU countries for which EUROSTAT has data. This note just produces estimates for the UK.¹

The following lists the Input Variables, i.e., those that are actual numbers of people measured in the Labour Force Surveys, and the Derived Variables, i.e., those variables used in the actual equations used to measure Labour Slack. The final page gives estimates of Labour Slack in the period 2002-2012, in which a degree of extrapolation has had to be used, because EUROSTAT have yet to provide us with the latest measures of some of the variables. We have applied the same ratio of the number of workers on lay-off as applied in 2002 to total employment in all subsequent years.

The result is certainly an underestimate of Labour Slack relative to unemployment. But even then the results show how the difference between the standard “headline” figure on unemployment and real labour slack has increased, for all adults (aged 15-64), for women and for youths (15-24). Back in the 1980s, when such data were first collected, the differences were quite small.

1. Input variables

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\begin{align*}
E &= \text{Total employment} \\
E_{PTI} &= \text{Involuntary part-time employed} \\
E_{PTV} &= \text{Voluntary part-time employed} \\
U_{FT} &= \text{Unemployed seeking full-time jobs} \\
U_{PT} &= \text{Unemployed seeking part-time jobs} \\
U_{p1} &= \text{Passive unemployed type 1 (Persons wanting employment but who did not seek it in the period, believing that no job was available)} \\
U_{p2} &= \text{Passive unemployed type 2 (Persons seeking employment, but reporting not having used any method to find a job during the last 4 weeks, who are available for employment immediately)} \\
U_{p3} &= \text{Passive unemployed type 3 (Persons seeking employment, but who could not start working within two weeks, due to personal or family responsibilities, illness or incapacity, other reasons)} \\
NW &= \text{Number of employed without paid work for economic reasons} \\
H_{NWUS} &= \text{Usual working hours of employed without paid work for economic reasons}
\end{align*}
\]

¹ For a full explanation of the methodology and for estimates for EU countries for earlier years, see G.Standing, Global Labour Flexibility: Seeking Distributive Justice (Basingstoke, Macmillan, 1999). Later estimates were incorporated in an ILO reported coordinated by the author. ILO, Economic Security for a Better World (Geneva, ILO, 2004).
2. Derived variables

\begin{align*}
E_{\text{FT}} &= \text{Full-time employment} \\
E_{\text{PT}} &= \text{Part-time employment} \\
E_{\text{FTE}} &= \text{Total employment full-time equivalent} \\
L &= \text{Labour force} \\
L_{\text{FTE1}} &= \text{Labour force full-time equivalent, integrating } E_{\text{PTI}}, E_{\text{PTV}}, U_{\text{FT}}, U_{\text{PT}} \\
L_{\text{FTE2}} &= \text{Labour force full-time equivalent, integrating } E_{\text{PTI}}, E_{\text{PTV}}, U_{\text{FT}}, U_{\text{PT}}, U_p \\
U &= \text{Standard unemployment} \\
U_{\text{adj}} &= \text{Adjusted unemployment, integrating } E_{\text{PTI}}, E_{\text{PTV}}, U_{\text{FT}}, U_{\text{PT}} \\
U_{\text{P}} &= \text{Passive unemployed} \\
NW_{\text{FTE}} &= \text{Full-time equivalent of NW} \\
ST_{\text{FTE}} &= \text{Full-time equivalent of } E_R \\
LS &= \text{Labour Slack} \\
\%U &= \text{Standard unemployment rate} \\
\%U_{\text{adj}} &= \text{Adjusted unemployment rate} \\
\%LS &= \text{Labour Slack rate}
\end{align*}

3. Model

The basic relationships can be expressed as follows:

\begin{align*}
E &= E_{\text{FT}} + E_{\text{PT}} \\
E_{\text{PT}} &= E_{\text{PTV}} + E_{\text{PTI}}
\end{align*}

Assuming that workers identified as having a job but who lack work due to economic reasons (NW), and workers with reduced working time (ST) are counted officially as full-time workers (E_F), the 'net' full-time workers (i.e. those who actually worked full-time; E_F') is:

\[ E_{\text{F}}' = E_{\text{F}} - NW - E_R \]

The total employment full-time equivalent (E_{FTE}) then is the sum of all types of worker expressed in full-time equivalent numbers, i.e.

\[ E_{\text{FTE}} = E_{\text{FT}} + 0.5 \ E_{\text{PTI}} + 0.5 \ E_{\text{PTV}} + NW_{\text{FTE}} + ST_{\text{FTE}} \]

After substituting (1), (2) and (3) to (4)

\[ E_{\text{FTE}} = E - 0.5 \ E_{\text{PTI}} - 0.5 \ E_{\text{PTV}} - NW + NW_{\text{FTE}} - ST + ST_{\text{FTE}} \]

The standard labour force is defined as the sum of all employed, including ‘self-employed’, and the unemployed:

\[ L = E + U = E + U_{\text{FT}} + U_{\text{PT}} \]
However, this must be, first, adjusted for the fact that not all the unemployed are seeking full-time jobs.\(^2\) Therefore, because the data are limited, we assume that they are half-time in the labour force and half-time out of it. The labour force expressed in full-time equivalent numbers is defined as the sum of employment full time equivalent and unemployed full time equivalent:

\[ L_{FTE1} = E_{FTE} + U_{FTE} = E - 0.5 \ E_{PTV} + U_{FT} + 0.5 \ U_{PT} \]  

(7)

The standard unemployment rate is defined as:

\[ \%U = \frac{U}{L} \times 100 = \frac{U_{FT} + U_{PT}}{E + U_{FT} + U_{PT}} \times 100 \]  

(8)

The adjusted unemployment rate, reflecting the concept above of labour force and unemployment full time equivalents, is defined as:

\[ \%U_{adj} = \frac{U_{adj}}{L_{FTE1}} \times 100 = \frac{U_{FT} + 0.5 \ U_{PT} + 0.5 \ E_{PT}}{E - 0.5 \ E_{PTV} + U_{FT} + 0.5 \ U_{PT}} \times 100 \]  

(9)

The Labour Slack rate, reflecting the concept above of labour force and unemployment full time equivalents and incorporating underemployment forms (NW, ST) and the passive unemployed, is defined as:

\[ \%LS = \frac{LS}{L_{FTE2}} \times 100 = \frac{\alpha (U_{FT} + 0.5 \ U_{PT} + 0.5 \ E_{PT}1) + NW_{FTE} + ST_{FTE}}{E - 0.5 \ E_{PTV} + \alpha (U_{FT} + 0.5 \ U_{PT})} \times 100 \]  

(10)

where

\[ \alpha = \frac{U_{p} + U_{FT} + U_{PT}}{U_{FT} + U_{PT}} \]  

(11)

(total passive unemployed)

\[ U_{p} = U_{p1} + U_{p2} + U_{p3} \]  

(12)

(ST in full-time equivalent)

\[ ST_{FTE} = ST \frac{H_{STUS} - H_{STAC}}{H_{STUS}} \]  

(13)

(NW in full-time equivalent)

\[ NW_{FTE} = NW \frac{H_{NWUS}}{H_{US}} \]  

(14)

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\(^2\) This is one of the several dimensions not incorporated in the approach taken by David Bell and David Blanchflower. D.Bell and D.Blanchflower, “Underemployment in the UK revisited”, National Institute Economic Review, No.224, May 2013. [http://ner.sagepub.com/content/224/1/FB](http://ner.sagepub.com/content/224/1/FB)
Figure 1: Unemployment and Labour Slack, All adults, United Kingdom, 2000-12

Source: Eurostat LFS data.

Figure 2: Unemployment and Labour Slack, youth aged 15-24, UK, 2000-12

Source: Eurostat LFS data.
Figure 3: Unemployment and Labour Slack, for women, United Kingdom, 2000-12

Source: Eurostat LFS data.