
FAULTY METHODOLOGY GENERATES FAULTY RESULTS:

Comments on the paper entitled “An empirical assessment of the *Employee Free Choice Act*: the economic implications”
by Anne Layne-Farrar, March 2009.

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Layne-Farrar’s approach is based on a particular implementation of Okun’s Law. This law is due to one of the greatest American macroeconomist of the twentieth century, Arthur Okun, who was once an adviser to Presidents Kennedy and Johnson. Okun formulated and tested his law in 1962. It now appears in every elementary macroeconomics textbook as a description of the robust macroeconomic connection found in the US and Canadian data between the “cyclical unemployment rate” and the “output gap”. The cyclical unemployment rate is the difference (in percentage points) between the actual unemployment rate and the structural unemployment rate, while the output gap is the percentage difference between actual real GDP and potential real GDP. The structural unemployment rate and potential real GDP are usually taken as the levels of the unemployment rate and real GDP that are jointly observed when the economy operates at its maximum non-inflationary level of activity.

A standard formulation of Okun’s Law is the following:

$$UR - URS = \beta * [\log(YR) - \log(YRP)] + v$$

where UR = actual unemployment rate, URS = structural unemployment rate, YR = actual real GDP, YRP = potential real GDP, v = zero-mean random disturbance, β = a parameter usually estimated to be between -1/2 and -1/3. The time and province (or state) indices are omitted for simplicity. The connection reflected by β is negative since more output brings more jobs, and therefore less unemployment. The log-difference $\log(YR) - \log(YRP)$ is commonly used as a proxy for the percentage difference or output gap $(YR - YRP)/YRP$.

The difficulty in estimating Okun’s Law with real data arises from the fact that the structural unemployment rate (URS) and potential real GDP (YRP)

are unobserved variables. The way Layne-Farrar tries implicitly to get over this problem is 1) by assuming that URS is a function of union density (UD) and of it alone, and 2) by replacing the output gap $(YR - YRP)/YRP$ by a combination of the change in the level of output (ΔYR) and the CPI-inflation rate (INF). Based on her preferred results in her Table 3, she estimates the following equation:

$$UR = \alpha * UD + \beta * \Delta YR + \gamma * INF + v$$

where she has replaced URS by $\alpha * UD$, and $\beta * [\log(YR) - \log(YRP)]$ by $\beta * \Delta YR + \gamma * INF$. [I have omitted lags, which are a secondary issue, and the regression constant for simplicity.]

She makes two errors. First, it is unacceptable to impose that structural unemployment rates in Canadian provinces (or anywhere else, for that matter) depend solely on union density. The research literature has identified a number of other factors that can affect URS in addition to union density. Examples are demographic structure (the youth and women shares of the labour force), the real or relative minimum wage, unemployment insurance policy parameters, etc. By omitting these factors (which can vary widely from year to year and from province to province) from her test equation, Layne-Farrar introduces a dangerous left-out bias into her results. To the extent that union density happens to be correlated with those omitted factors, her union density variable will steal all the explanatory power that would properly belong to them. Her estimated equation will give the erroneous signal that union density is possibly a very significant determinant of unemployment, while in fact it could have no effect at all.

Her second error is the drift from the standard Okun specification $\beta * [\log(YR) - \log(YRP)]$ toward the surprising combination of terms $\beta * \Delta YR + \gamma * INF$, for which no explanation is offered whatsoever. It is an obvious inconsistency to try to explain the level of the unemployment rate (UR) by the rate of change of output (ΔYR), which, further, is cast in dollar change instead of percentage change (ΔYR instead of $\Delta \log(YR)$). The presence of the CPI-inflation rate (INF) in the equation is also left unexplained (although it could be rationalized by the fact that a higher inflation rate would lead the central bank to tighten money and increase unemployment).

An alternative was available to Layne-Farrar. Just as the structural unemployment rate urs reflects many supply-side influences on unemployment, the Okun term containing the output gap $\beta * [\log(YR) - \log(YRP)]$ arises from many demand-side factors. In the literature, these are often proxied by a combination of terms including interest rates, foreign economic activity, government spending, taxation, and the terms of trade. She could have used these additional variables in her equation, but has not.

If these steps had been taken, nothing would have ensured that union density would have remained a significant determinant of provincial unemployment rates. I actually went into such an exercise eight years ago in a paper I published in *Oxford Economic Papers* (January 2001 issue) with co-authors Manfred Keil (Claremont McKenna, Los Angeles) and James Symons (University College, London). The title was "The sources of unemployment in Canada, 1967-1991: evidence from a panel of regions and demographic groups." Our unemployment equations tested eleven supply- and demand-side regressors. We found that union density was not a significant determinant of unemployment in any of the four demographic groups under scrutiny (women 15-24, men 15-24, women 25+ and men 25+) over the sample period 1967-1991. I do not know if this result would continue to hold with fifteen more years of data, but the point has been made here that "evidence" on the sources of unemployment that exclude all supply-side causes except union density and resort to an ad hoc distortion of Okun's Law on the demand side is totally unacceptable from a scientific point of view.

ADDITIONAL REMARK

At full employment, in 2007, Quebec's unemployment rate was 7% Canadian (which means 6% according to the American definition). What would the Layne-Farrar results predict Quebec's unemployment rate to be if its union density - currently 40% - declined to the US level of 13%? At 1 point lower unemployment per 3 points lower union density, they imply that the province's unemployment rate would decline by 9 points, to minus 3% American. One does not need a Ph.D. to understand that this is nonsense.