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The Job Guarantee and work incentives

William F. Mitchell and Martin Watts[1]
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Centre of Full Employment and Equity
The University of Newcastle, Callaghan NSW 2308, Australia
Home Page: http://e1.newcastle.edu.au/coffee
Email: coffee@newcastle.edu.au

1 Introduction

In this paper we briefly analyse the issue of work incentives under the current regime of unemployment benefits in Australia with and without workfare (work for the dole) and compare it to the Job Guarantee (JG) proposal by Mitchell (1998). We show that the provision of a JG does not impede work incentives under a plausible range of wage parameters relative to market-based work and is also likely to be superior to Workfare. We also show that the JG is best introduced without a supporting unemployment benefit. Concluding remarks follow.

2 The Job Guarantee Policy

The JG maintains full employment using a buffer stock mechanism. The public sector would operate a buffer stock of jobs to absorb workers who are unable to find employment in the private sector. The pool expands (declines) when private sector activity declines (expands). The economies that avoided the plunge into high unemployment in the last 25 years maintained a "sector of the economy which effectively functions as an employer of the last resort, which absorbs the shocks which occur from time to time..." (Ormerod, 1994: 203). The JG fulfills this absorption function to minimise the costs associated with the flux of the economy.

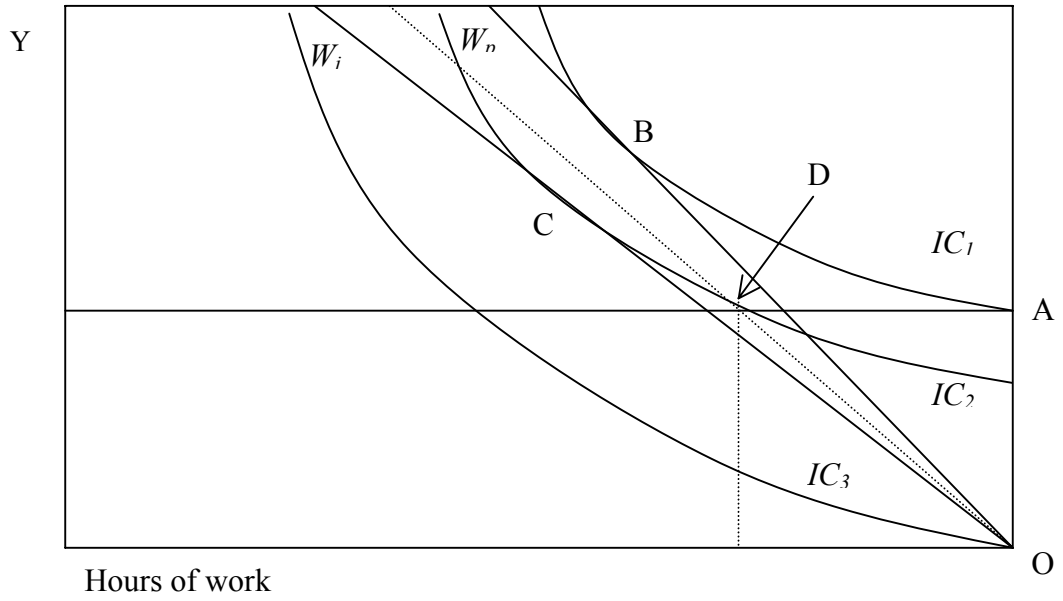
The JG wage would be set to avoid disturbing private sector wage structure and to ensure the JG is consistent with stable inflation (Mitchell, 1998), the JG wage rate is best set at the minimum wage level. The JG wage may be set higher to facilitate an industry policy function.

The state would supplement the JG earnings with a wide range of social wage expenditures, including adequate levels of public education, health, child care, and access to legal aid. Further, the JG policy does not replace conventional use of fiscal policy to achieve social and economic outcomes. In general, we prefer a higher level of public sector spending.

3 The Job Guarantee and unemployment benefits

What is the nature of the interaction between the JG and the welfare system in terms of providing appropriate incentives on the supply side? To highlight the results, we take a neo-classical approach to this problem. We compare the JG to an unemployment option (with and without the unemployment benefit) and to private sector employment. Figure 1 shows the work-leisure choice facing an individual. The unemployment benefit is OA. The private sector reservation wage is W_p and the JG wage is W_j. The individual is currently unemployed due to demand deficiency in the private sector and is located at *A* on IC_1. If a private job were available at the current private wage, the individual would be at his/her point of indifference between working at wage W_p and remaining on the unemployment benefit. Any slight rise in the private wage will induce the individual to enter employment. Assuming that the private wage was that for the low-skill worker, any attempts to cut it would have ramifications for the inducement to work.

Figure 1 Comparing work choices and incentives



In the JG approach, the worker is faced with a choice between no income at O or a JG job (should they be unable to find a private sector job) at W_j. It is clear, that the worker will

prefer the JG job (at *C*) in this case but they would not prefer it if they could take the unemployment benefit as an alternative. This worker would also prefer a private sector job to the JG at the indifference wage should one become available. So the JG does not interfere with preferences motivating a worker to take a private sector job. It does not provide disincentives to work. It is only not preferred if there is guaranteed non-work income of a sufficient level. This is not a surprising result but justifies the policy mix of guaranteed employment without corresponding unemployment benefit support being available.

The JG approach is a safer full employment strategy than a wage cutting approach. In the wage cutting approach unemployment benefit payments must be abandoned or not indexed over time in order to avoid the disincentive effect. However, this approach, at face value relies on questionable assumptions about elasticities and lack of interdependence between wage income and spending to generate its job growth projections. The JG policy provides certainty in two dimensions: (a) guaranteed employment, (b) guaranteed income. The wage cutting methodology provides certainty in neither.

4 The Job Guarantee and Workfare

To determine whether the JG would be preferable to the Workfare model we constructed a simulation of a utility maximisation problem. Consider an individual with a well behaved utility function defined across income and leisure of the form $U = U\left(Y, H - E\right)$, where E is hours of employment, w is the hourly wage so that $Y = WE$ is weekly income. H denotes the hours available during the week for paid work and leisure. Both first derivatives of the utility function are positive and the second derivatives are negative.

Then the individual maximises $U(WE, H - E)$. The first order conditions are given by $WU_1 - U_2 = 0$, which allows us to get $U_1/U_2 = 1/W$. The second order condition can be written as $W^2U_{11} - 2WU_{12} + U_{22} < 0$.

Consider the Cobb Douglas type utility function $U\left(Y,H-E\right)=Y^{\alpha}\left(H-E\right)^{1-\alpha}$, where 0<α<1. Then the first order condition can be written $\alpha(H-E)/(1-\alpha)Y=1/W$ and, in turn, this can be written as $\alpha(H-E)=(1-\alpha)E$, since $WE = Y$. Thus $E = \alpha H$. It can be readily confirmed that the 2nd order condition is satisfied.

The maximum level of utility can be written $U^{*}(W)=\alpha^{\alpha}(1-\alpha)^{(1-\alpha)}HW^{\alpha}$. Let W_p denote the private sector reservation wage at which the worker is indifferent between working and receiving unconditional unemployment benefit, A. W_p can be interpreted as the minimum private sector wage in an economy with unconditional unemployment benefits. Then W_{p} satisfies $U^{*}(W_p)=\alpha^{\alpha}(1-\alpha)^{(1-\alpha)}HW_p^{\alpha}=A^{\alpha}H^{(1-\alpha)}$.

Then, the reservation wage can be written as:

$$W_p=(A/H)\Big/\left\{\alpha(1-\alpha)^{(1-\alpha)/\alpha}\right\}=A/H\gamma$$

$$\gamma=\left\{\alpha(1-\alpha)^{(1-\alpha)/\alpha}\right\}<1$$

Consider the Job Guarantee wage W_j where $W_j=kW_p$ and k<1. Then if JG workers can choose their hours of work, their level of utility can be written as:

$$U^{*}\left(W_j\right)=\alpha^{\alpha}\left(1-\alpha\right)^{(1-\alpha)}HW_j^{\alpha}=k^{j}U^{*}\left(W_p\right)$$

The corresponding level of unconditional unemployment benefit at which workers are indifferent between a JG job with freely chosen hours and the benefit is given by kA.

If an unemployed worker is forced to undertake workfare to 'earn' the unemployment benefit, A, then the worker works A/W_w hours if W_w denotes the implicit workfare wage.

The worker has a preference for a JG job over workfare if:

$$U^*\left(W_j\right) = \left(kA\right)^{\alpha} H^{(1-\alpha)} > A^{\alpha}\left(H - A/W_w\right)^{(1-\alpha)}$$

This inequality can be written as $\left(H - A/W_w\right) < k^{\alpha/(1-\alpha)} H = H\lambda$ where $\lambda = k^{\alpha/(1-\alpha)}$.

Substituting for A using the expression for the private sector reservation wage W_p yields $H(1-\lambda) < \left(W_p/W_w\right) H\gamma$, and this can be written as $\left(W_p/W_w\right) < \gamma/(1-\lambda)$. But the workfare wage exceeds the JG wage (kW_p), then $k < \left(W_w/W_p\right) < \gamma/(1-\lambda)$ is a sufficient condition for a JG job to be preferred to a workfare job paying A for A/W_w hours of work.

In the Table 1 we show the values of $\gamma/(1-\lambda)$ corresponding to different values of the parameter α, the elasticity of utility with respect to income and the ratio of the JG wage to the private sector reservation wage, k.

Table A1 Labour-Leisure choice parameters under Workfare and the Job Guarantee

		α								
		0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
	0.50	0.523	0.515	0.508	0.502	0.500	0.504	0.521	0.571	0.698
	0.55	0.603	0.590	0.577	0.566	0.556	0.550	0.556	0.589	0.700
	0.60	0.702	0.683	0.664	0.644	0.625	0.609	0.600	0.615	0.704
	0.65	0.829	0.802	0.774	0.745	0.714	0.684	0.659	0.651	0.712
k	0.70	0.997	0.960	0.921	0.878	0.833	0.786	0.740	0.704	0.726
	0.75	1.232	1.180	1.125	1.065	1.000	0.929	0.855	0.783	0.753
	0.80	1.582	1.510	1.431	1.345	1.250	1.145	1.029	0.906	0.805
	0.85	2.165	2.057	1.940	1.810	1.667	1.506	1.324	1.119	0.907
	0.90	3.329	3.151	2.956	2.741	2.500	2.228	1.917	1.556	1.138
	0.95	6.817	6.429	6.003	5.530	5.000	4.399	3.704	2.884	1.885

Notes: k denotes the ratio of the JG wage to the private sector reservation wage. α denotes the elasticity of the utility function with respect to income.

Thus the JG job is preferred for ratios of the workfare wage to the private sector wage along a row that lie between the corresponding value of k and the row entry. Thus for example if the ratio of the JG wage to the private sector reservation wage is 0.6 and α =

0.5, then a workfare wage less than or equal to 0.625 times the private sector reservation wage yields a lower level of utility. There are entries in Table 1 that exceed unity. In this case workfare with a wage in excess of the private sector reservation wage may still be less preferred than the JG job. Political considerations may preclude setting the workfare wage in excess of the minimum private sector wage. Table 1 shows the range of workfare wages expressed as a fraction of the private sector reservation wage over which workers are prepared to sacrifice hourly wages by taking a JG job as compared to a workfare stint. JG workers can choose their hours of work (and income) but for workfare workers hours of work and income are predetermined.

It should be noted that these estimates are biased against a JG job, given the parameters of the utility function and k, because a 'workfare' job and a JG job are not strictly comparable. A JG job is permanent and has all the features of a high paid job (except the wage), such as long service leave and holiday pay, whereas the workfare job is not classified as employment and has limited duration and no entitlements.

In conclusion, we conclude that under extremely plausible conditions, that the JG will be more preferable to an individual than Workfare (see point D in Figure 1).[2]

5 Conclusion

In this paper we have shown that in a typical model of individual maximisation that the JG does not distort work incentives. We have demonstrated that the JG is a safer path to full employment, as compared to wage cutting methods, because the latter has to also abandon or significantly reduce unemployment benefit payments in order to avoid the disincentive effect. The JG policy provides certainty in two dimensions: (a) guaranteed employment, (b) guaranteed income. A wage cutting methodology provides certainty in neither dimension. The introduction of the JG would allow a number of reforms to be made to the welfare system: (a) the scrapping of the unemployment benefits scheme; (b) the expansion of the social wage and family income supplements (as a precursor to a guaranteed minimum income); and (c) the abandonment of workfare.

6 References

Mitchell, William F. (1998), "The Buffer Stock Employment Model – Full Employment without a NAIRU", *Journal of Economic Issues*, 32(2), 547-55.

Ormerod, P. (1994), *The Death of Economics*, (Faber and Faber: London).

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[1] Professor of Economics and Director of Centre of Full Employment and Equity and Senior Lecturer in Economics and Deputy Director of the Centre of Full Employment and Equity, respectively. All errors are our own.

[2] We are only comparing like with like and so family allowances are considered full compensated.