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# Keeping up with the Joneses: Who loses out?

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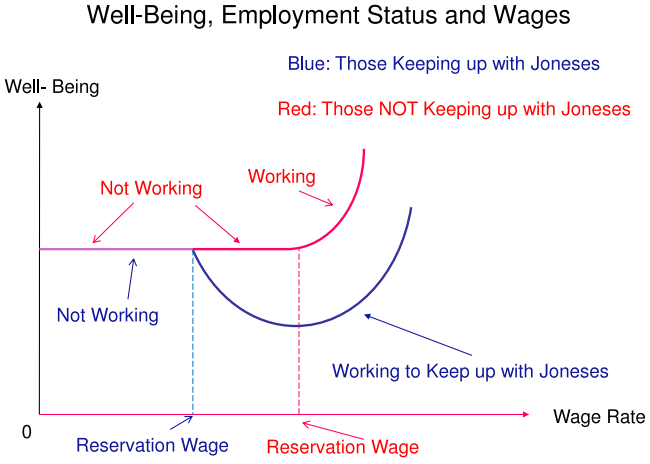
## HIGHLIGHTS

- Labour supply and well-being if consumers value consumption relative to their peers.
- Individuals over-supply labour.
- Some induced to work who otherwise would not.
- For these well-being is a decreasing function of wage rates.
- The worst-off are not those with lowest wage rates.

## GRAPHICAL ABSTRACT

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## ABSTRACT

When individuals compare themselves to those with the same wage-rate, status concerns – *Keeping up with the Joneses* – lead individuals to work who otherwise would have chosen not to, and, for them, well-being is a *decreasing* function of the wage rate.



## 0. Introduction

Dating back to Veblen (1924), there is an extensive literature on conspicuous consumption whereby individuals lose esteem if their

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consumption of some good(s) which signal their status is below the average of the reference/peer group and gain esteem if their consumption exceeds the average. It is recognised that this can lead to a "rat race" in which individuals over-consume, with a consequent need to fund this extra consumption by either working harder or saving less (Frank, 1985; Schor, 1998). This over-consumption is referred to as the *Veblen Effect*[1] or the *Keeping up with the Joneses Effect*.[2]

This paper develops some further implications for behaviour and well-being when people are concerned about their consumption relative to their peers—taken to be those with a similar wage rate. It is shown that the *Keeping up with the Joneses Effect* can lead people to work who would otherwise have chosen not to, and that, for such individuals well-being will be a strictly decreasing function of their wage rate. Thus those who are least well off in society are not those with the lowest wage.

## 1. The model

Individuals are endowed solely with 1 unit of time that can be spent on work or leisure. There is a tax/benefit system whereby everyone receives a tax-free universal benefit, $\sigma > 0$ and all earned income is taxed at the rate $\tau$, $0 < \tau < 1$. Individuals differ in their productivity which is reflected in their net wage rate $\omega \geq 0$. An individual with net wage $\omega$ who spends a fraction $\ell$, $0 \leq \ell \leq 1$ of time on leisure will end up with consumption $c = \omega(1-\ell)+\sigma$.

Individual well-being is a combination of well-offness, $y$, and happiness, $h$, as given by the function:

$$w = h^{\theta} y^{1-\theta}, \quad 0 \leq \theta \leq 1. \tag{1}$$

Here:

(i) Well-offness, $y$, is captured by a utility function

$$y = u(c, \ell) \tag{2}$$

satisfying the standard assumptions—e.g. concavity.

(ii) Happiness measures individuals' perceptions of how well their life is going in comparison to their peers—those with the same net wage-rate, $\omega$. It is assumed that this depends on an individual's consumption relative to the average consumption $\bar{c} > 0$ of their peers, and that happiness is given by:

$$h = \frac{c/\bar{c}}{1 + c/\bar{c}} = \frac{c}{c + \bar{c}}. \tag{3}$$

The two reasons for adopting this functional form for happiness are:

(a) Happiness is thereby bounded between 0 and 1, reflecting the way happiness is traditionally measured on some finite scale.

(b) Labour supply decisions depend on the average consumption of others. If, instead, happiness depends solely on $c/\bar{c}$ then, given (1), the average consumption of others would exert a negative externality on individual well-being but would not affect behaviour—thereby missing a crucial feature of the *Keeping up with the Joneses* effect.[3]

The parameter $\theta$ determines how much individual well-being depends on relative consumption.[4] So if $\theta = 0$ we have the conventional economists' story about well-being, and there will be no *Keeping up with the Joneses Effect*. If $0 < \theta \leq 1$ then the *Keeping up with the Joneses Effect* is present, and is increasing in $\theta$. Combining (1)–(3) well-being can be written as:

$$w(c, \ell, \bar{c}; \theta) = \left(\frac{c}{c + \bar{c}}\right)^{\theta} u(c, \ell)^{1-\theta}. \tag{4}$$

## 2. Individual labour supply and well-being

Consider an individual with net wage rate $\omega$. The individual takes as given $\bar{c} > 0$ – the average consumption of those with the same net wage rate – and chooses labour supply (effort) $e = 1 - \ell$ to maximise well-being,

$$w(\sigma + \omega e, 1 - e, \bar{c}, \theta) \equiv \left(\frac{\sigma + \omega e}{\sigma + \omega e + \bar{c}}\right)^{\theta} \times [u(\sigma + \omega e, 1 - e)]^{1-\theta}. \tag{5}$$

Let

$$e = f(\omega, \sigma, \bar{c}; \theta) \equiv \arg\max_{0 \leq e \leq 1} w(\sigma + \omega e, 1 - e, \bar{c}; \theta) \tag{6}$$

be the well-being-maximising labour supply decision, and

$$v(\omega, \sigma, \bar{c}; \theta) = \underset{0 \leq e \leq 1}{\text{MAX}} w(\sigma + \omega e, 1 - e, \bar{c}; \theta) \tag{7}$$

the associated indirect well-being function.

The f.o.c. for maximisation is

$$\frac{\theta}{1-\theta}\omega\left[\frac{1}{\sigma + \omega e} - \frac{1}{\sigma + \omega e + \bar{c}}\right] + \frac{[\omega u_c - u_{\ell}]}{u} \leq 0, \quad e \geq 0, \tag{8}$$

where the inequalities hold with complementary slackness. From (8) there is a reservation net wage rate

$$\underline{\omega}(\sigma, \bar{c}, \theta) = \frac{u_{\ell}(\sigma, 1)}{u_c(\sigma, 1) + \frac{\theta}{1-\theta} \cdot \frac{\bar{c}}{\sigma + \bar{c}} \cdot \frac{u(\sigma, 1)}{\sigma}} \tag{9}$$

at or below which labour supply is zero and above which it is positive. This reservation wage rate is:

- a strictly increasing function of unearned income, $\sigma$;
- a strictly decreasing function of average consumption, $\bar{c}$;
- a strictly decreasing function of the weight, $\theta$, given to happiness.

When $\theta = 0$, the reservation wage is just the conventional marginal rate of substitution between consumption and leisure at zero hours of work. The fact that it is decreasing in both $\bar{c}$ and $\theta$ means that the *Keeping up with the Joneses Effect* is inducing people to work who would not otherwise have done so.

Since, conditioning on $\bar{c}$ and $\theta$, the labour supply decision is a conventional utility-maximising decision, it follows that, when individual labour supply is positive, it is a strictly decreasing function of unearned income, while the effect of an increase in the (net) wage rate is ambiguous, though the compensated labour supply response is positive. From (8) it follows that when labour-supply is positive it is a strictly increasing function of $\bar{c}$ – the *Keeping up with the Joneses Effect* – and, consistent with this, is also an increasing function of $\theta$. In summary we have the following comparative static labour-supply predictions in the case where

[1] The Veblen effect has also been invoked to help explain the Easterlin Paradox—Easterlin (2001).

[2] This has led to arguments for either taxing such conspicuous consumption or increasing the rate of income tax – see Boskin and Sheshinski (1978) – to correct the consumption externality.

[3] This is true of the formulation adopted by Boskin and Sheshinski (1978).

[4] This formulation is consistent with that adopted by Boskin and Sheshinski (1978).