Employees' differing payment choices on bank holidays; an economic analysis

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Abstract:

The intention of this essay is to interpret the 'payment' choices on bank holidays of a real-life sample of employees of a firm, and to attempt to explain these choices using economic principles. The problem will be introduced, using the Labour-Leisure problem to help rationalise the information gathered and clarify the trends observed. Furthermore, the choices observed will then be used to provide an indication of employee preferences and their resulting utilities. A summary will then be given showing how the economic principles discussed relate to this specific case and giving reasons why there are some discrepancies between theory and reality.

Introduction:

This essay intends to examine the behaviour of utility-maximizing consumers within a firm of employees, using incidences of observed choices to identify the differences in preferences within the sample. Firstly, I will introduce the scenario and contextualise its relevance in an economic setting, then proceed to give an outline of the trends observed and include some important figures. Some relevant economic theory will then be introduced, leading to a discussion of the scenario in relation to these theories. Finally, conclusions will be drawn about the gathered data and what it infers about the underlying preferences of the subjects, while mentioning some of the shortcomings of the analysis.

Contextualisation:

I attempt to analyse the varying preferences of employees of a department store, namely by investigating how their attitudes towards two 'goods' vary depending on how we categorise these employees. In my approach I have attempted to draw correlations between preferences and a variety of groupings. We think of employees (herein used interchangeably with consumers) as having the choice between two 'goods', additional time or additional money, when selecting their 'payment' option on bank holidays. Furthermore, it should be noted that the contract situation of employees is not uniform, an issue which will also be considered in the essay. Those employees who began employment before September 2003 enjoy 'double-time' on bank holidays, while those employed after are awarded 'time-and-a-half'. This data has been procured from a store of around 190 employees (herein referred to as consumers), their choices collated and interpreted for 2 bank holidays this financial year.

Choices observed:

Empirical data was collated from available sources, and various figures calculated to help yield conclusions about employees' choices. On the first bank holiday, the labour force consists of 71 employees on newer contracts and 12 on older ones. Remarking on their choices, it can be seen 11.2% of those on new contracts selected time-owing, compared to 33.3% of longer-serving employees. The second saw 73 employees on newer contracts, of which 24.7% selected time-owing, and 18 on older contracts of which 27.7% selected time-owing.

Overall, the percentage of employees selecting time-owing over the two bank holidays was 18.05% for those on newer contracts, and 30% for those on double-time contracts.

Theory will now be used to attempt to interpret this data from an economic perspective.

The labour-leisure problem:

One can translate the scenario described using the Labour-leisure problem, where the assumption is made that leisure is a normal good, and that work is not a preferred activity for individuals, but rather simply a means to finance consumption. Using the model described in Besanko & Braeutigam[1], we define an individual's utility as depending on the amount of leisure time and the amount of consumption possible. In this case of bank holidays, the variation in contracts, a simple linear relationship, performs the same role as a wage increase in our analysis, as demonstrated by the diagram below.
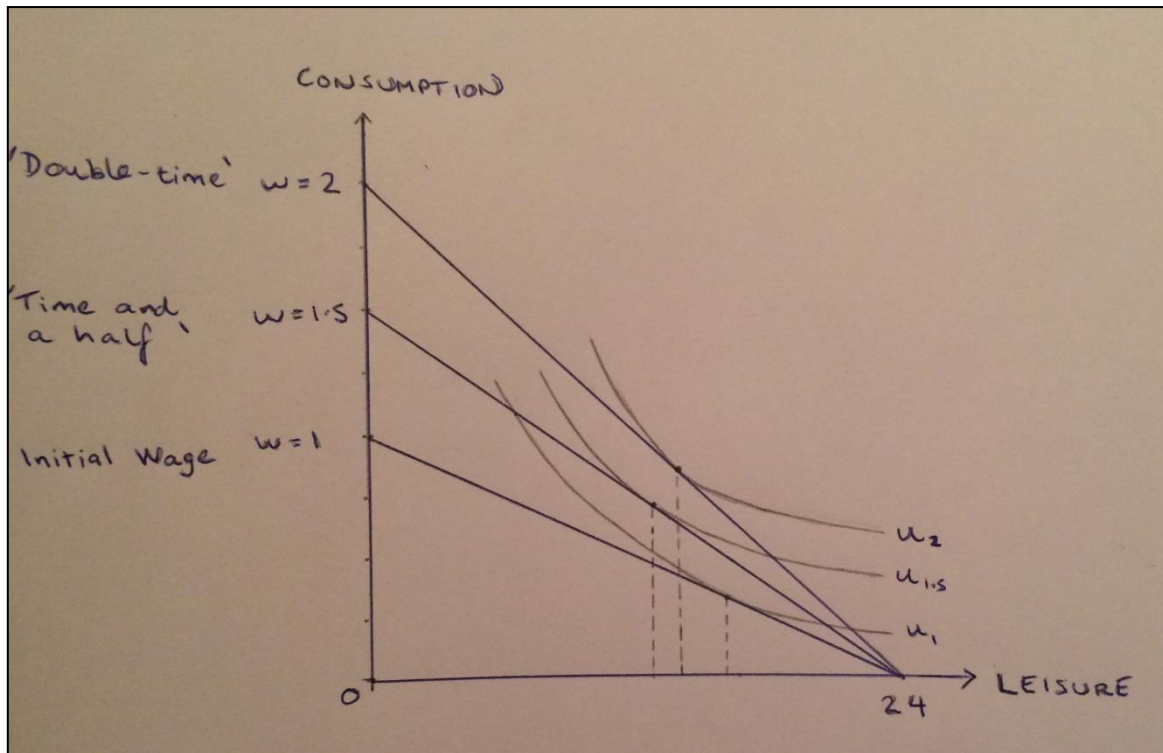
Figure 1   Optimal Choice of Labour & Leisure

Since the slope of the budget line is given by the wage rate, we can deduce that the

opportunity cost of leisure, or the amount of potential consumption lost as a result of

increasing leisure by one unit, is greater for those on older contracts. One would expect this

to result in greater amount of time spent in labour, but the diagram contradicts this

assumption, an effect that can be explained through the substitution and income effects

involved. The wage rate is the price of labour[1], or the amount of income given up to enjoy

leisure. As the wage rate increases, the resulting income effect increases purchasing power

for employees, as they can maintain the same level of consumption as before by working

proportionally fewer hours. Being a normal good, the income effect on leisure here is

positive, leading to a decrease in labour supply and an increase in leisure. The substitution

effect increases the labour supply as it increases the relative price of leisure, raising its

opportunity cost. When the income effect is larger than the substitution effect, labour

supply is reduced despite the higher wage rate. This could perhaps explain what is observed in the gathered data, suggesting that between the wage rates of 'time-and-a-half' and 'double time', the income effect is becoming larger with the rising wage.
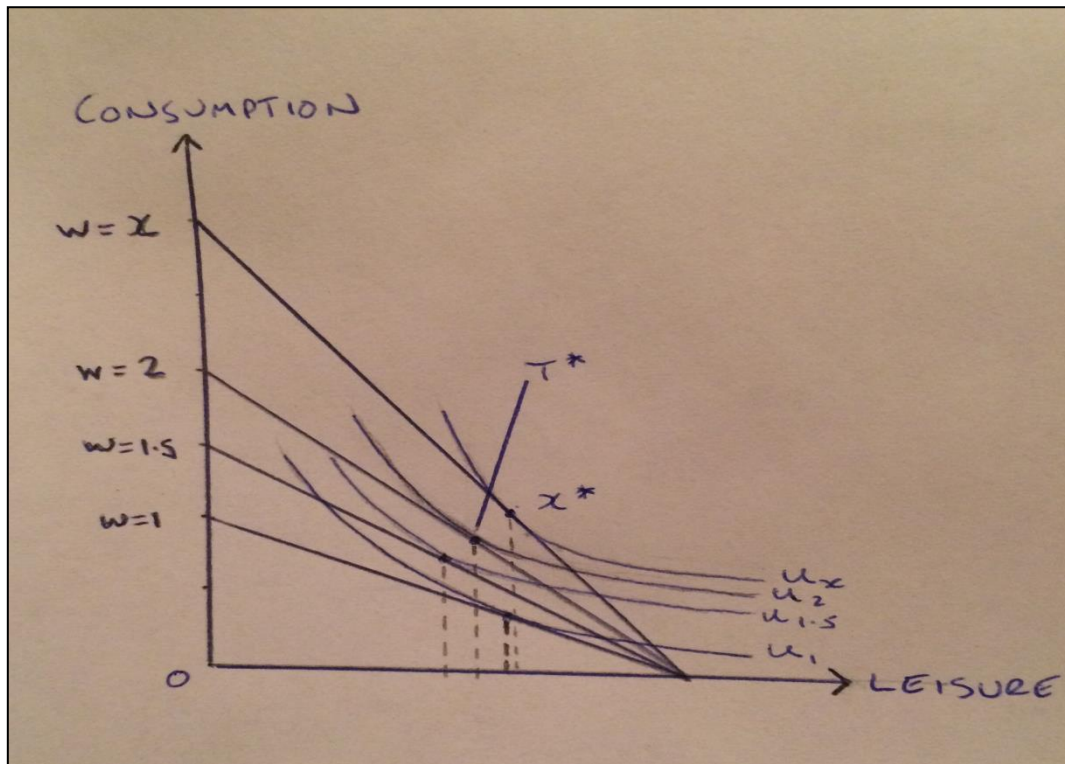

Figure 2   Optimal Choices as Wages Rise Further

Since the majority of people still select 'paid', the point T* in the modified diagram above would be an appropriate estimation of the position of those on double time contracts within the model. At this point the labour supply has began to reduce, as more employees select 'time' than before, but not to such an extent that it exhibits a reduction from the original level of labour supplied. It could be suggested that, were the wage rate to increase even further for those on older contracts, one would observe a point such as X* where this event would occur. This would result in the backward-bending labour supply curve as detailed in the theory, an illustration of which is included below as showing its relevance to this case.
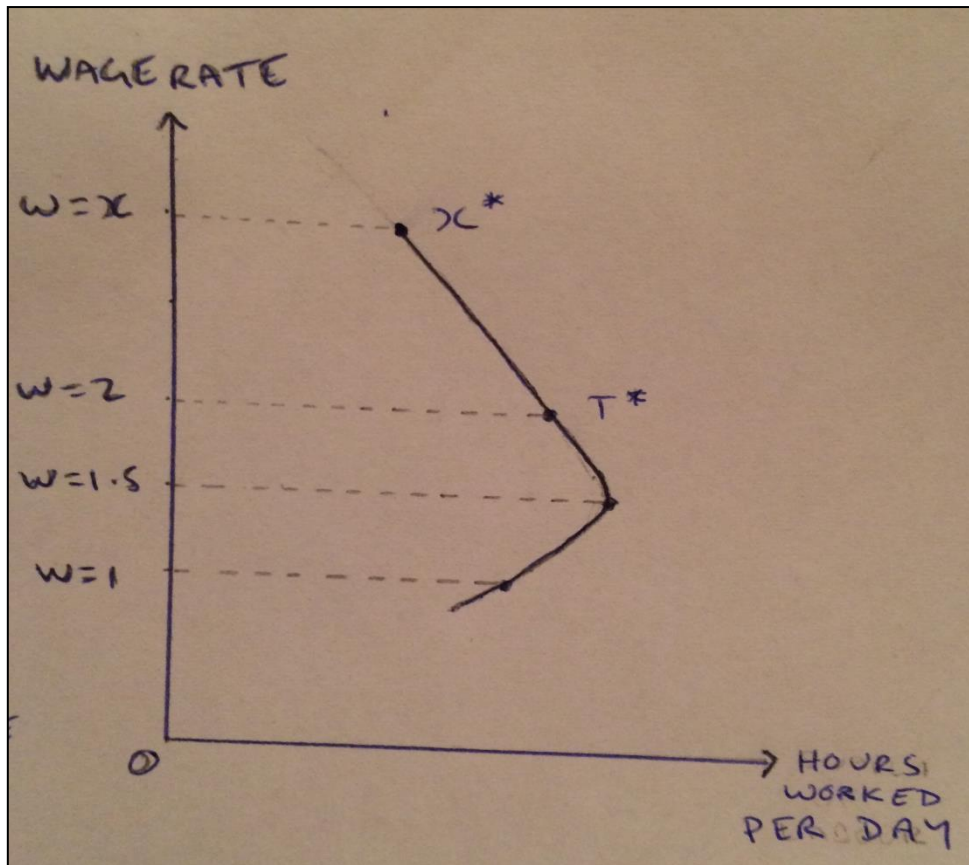
For use with Mochrie, *Intermediate Microeconomics,* Palgrave 2016

Figure 3   The Backward-Bending Supply of Labour

Varian[2] explains that the consumer's budget constraint is initially considered to have some value of non-labour income **M**, obtained from sources such as investments. This is important in that it provides a reason for the distinction observed between employees on older contracts with a rate of 'double-time' to those on 'time and a half'. We can assume that for the majority of employees on older contracts, their previous years of employment allow for a greater level of **M** than those, typically younger, employees on the newer, less attractive contracts. Within Varian's framework, this means that the employees on older contracts would have a higher initial level of consumption even if they devoted no time to labour at all, when compared to those on newer contracts. This would mean they would

need to assign less time to labour in order to reach the same level of consumption. A shortfall in this theory here might be that previous employment information is not available, and as such direct analysis of employees' initial non-labour income *M* cannot be undertaken.

Some restrictions on the analysis are apparent, one being the amount of data available. Only a relatively small sample of bank holidays is available because of the recent introduction of a computer system to capture the choices of employees. This constrains the ability to make definitive conclusions about employee preferences in the long-run, as each instance must be treated as one individual choice by one employee at a point in time. More data could have encouraged a more detailed analysis of the relationship between employee preferences and how the firm may try to influence this behaviour, as a restriction has now been placed on the amount of time-owing that can be accrued before it must be used.

The analysis also focuses on specific dates, and so doesn't account for shift patterns and that these employees may only have worked one bank holiday. This makes it difficult to deduce any realistic trends for these individual employees, focusing discussion on the group as a whole.

Conclusion:

Relating the statistics to the theory discussed above allows some interesting trends to be identified. Despite the potential for greater income by those on older contracts, there appears to be a greater tendency to select time-owing, suggesting that these consumers allow leisure time to have a greater influence on their utility than money. However, the same is true for those on newer contracts so more concrete relationships can be observed

here. The results indicate a positive correlation between age and propensity to select 'additional time' as shown in the table below.

Table 1   Employees Selecting Time-Owing By Age

Age	<20	20-30	30-40	40-50	>50	Total
	4	2	4	9	16	35

It is implied from the analysis that contracts do have an influence on preferences when selecting payment options, and that these, typically older employees, place a far greater proportion of their utility in the amount of time they are able to enjoy as they see fit.

References:

[1] Besanko, D. and Braeutigam, R.R. (2008) *Microeconomics*, 3rd Ed., Asia: John Wiley & Sons

[2] Varian, H.R. (2006) *Intermediate Microeconomics: A Modern Approach*, 7th Ed., New York: W.W. Norton & Company, Inc.

Pindyck, R.S. and Rubinfeld, D.L. (2009) *Microeconomics*, 7th Ed., New Jersey: Pearson Education, Inc.