

## ECO 735 Homework #8

Assigned February 7, 2012

Due February 9, 2012

1. Consider a married couple, Fanny and Manny. Suppose that Fanny and Manny each have egoistic Cobb-Douglas preferences defined over their individual, private consumption,  $C_i$  ( $i = F, M$ ), and their own non-market time,  $L_i$  ( $i = F, M$ ), such that

$$U^i(C_i, L_i) = (1-\alpha_i) \ln C_i + \alpha_i \ln L_i \quad (i = F, M)$$

Suppose also that each of them can receive a market wage of  $W_F$  and  $W_M$ , respectively, that each of them has unearned of  $N_F$  and  $N_M$ , respectively, and that each of them divides her/his time between market labor and non-market activities. Suppose further that they make household decisions collectively with an income sharing rule,  $\mu^F(W_F, W_M, N_F, N_M) + \mu^M(W_F, W_M, N_F, N_M) = N_F + N_M$ .

- a. Derive the optimal labor supply functions for Fanny and Manny.