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Hello, I am a Ph.D student at Universidad Carlos III de Madrid. My thesis advisor is Javier Díaz-Giménez. In my dissertation I study the cyclical properties of labor supply of two-person households.

The title of my job-market paper is "**Real Business Cycles in The Model of Two-Person Household with Home Production**". This paper is an attempt to replicate the co-movement of hours and productivity observed in the post-war U.S. data using one shock neoclassical model. I study the cyclical properties of the model economy with two sectors, market and home production, and with a representative household of two individuals who face fixed cost of working and may decide to exit the labor market. The fluctuations are driven by an aggregate technology shock. I find that in this model hours and productivity are negatively correlated, and volatility of hours is two times higher than volatility of productivity.

The co-movement of hours and productivity in the post-war U.S. economy can be characterized by two facts: (1) correlation of hours and productivity is negative; (2) hours are two times more volatile than productivity. The standard neoclassical RBC model fails miserably in accounting for these observations. The goal of this paper is to replicate the observed co-movement of hours and productivity in the one shock model.

I modify the standard neoclassical RBC model to account for home production and two-person household. The incorporation of home production increases the degrees of freedom of the time allocation along the intensive margin: each agent now has to choose not only how much time to spend on work and on leisure, but also how much time to spend in home production. The introduction of two-person representative household allows to study the labor market decisions on the external margin, or the decisions to enter or exit the labor market. The importance of these two modifications of the standard model also seem to be supported by the data: an average American spends a respectable 15% of his discretionary time working at home (compared to 25% of time spent working in the market); 60% of the working age population in the U.S. are married, or, in other words, live in two-person households.

The model economy has two sectors: market and home production. There is one representative firm that operates on the perfectly competitive market. A representative household has two agents. Agents (I call them a man and a woman) differ in their market productivity. Those agents pool income and take all economic decisions jointly. Agents face a fixed cost of partici-

pating in the labor market. In each point in time agent jointly decide how much time to spend on leisure, working in the market, working at home, and whether each agent should enter the labor market. The household also has to make an investment decision. The fluctuations in the model economy are driven by an aggregate technology shock.

I calibrate the model to the U.S. economy. The fixed cost of labor market participation is calibrated to match the average rate of labor market participation of women (around 60% in the U.S. data). This method of calibration generates the excessive volatility of the model: in 40% of cases a woman drops out of the labor market. I solve the model using value function iterations. This solution method is much more computationally costly than linear-quadratic approximations, but the latter method is not robust to the drastic changes in decision rules that arise in this model due to the option to exit the labor force.

In the bad times productivity would fall without hours adjustment. And a woman, facing a fixed cost of labor market participation and lower productivity, decides to drop out of the labor market. As a result of this drastic drop in aggregate market hours productivity (that depends negatively on aggregate hours worked) goes up. A man is trying to compensate for the drop in hours, but his ability to adjust is bound by his desire to keep the leisure level constant. As a result in bad times aggregate hours fall (and fall a lot) and productivity goes up. This intuition stands behind the main result of the paper - that hours and productivity are negatively correlated.

I find that in this model volatility of hours is two times higher than the volatility of productivity, and correlation of hours and productivity is negative, as in the U.S. economy. The main drawbacks of the model are excessive volatility (generated by the way the model was calibrated) and countercyclicality of productivity. I conclude that the model replicates well the co-movement of hours and productivity observed in the data.

The next paper, work in progress, **Cyclical Properties of Labor Supply in Heterogeneous Households Economy with Home Production**, is the natural extension of the job market paper. The goal is to explain the cyclical properties of hours and productivity observed in US economy. The representative household model captures well the co-movements of hours and productivity, but the absolute value of the correlation between hours and productivity is too high (-0.99 in the model, -0.18 in the data). I study a model economy of heterogenous households that have access to home production technology. Households differ ex ante in family status (two-person or married, and one-person or single) and in productivity. The economy is subject to aggregate technology shocks. Every agent faces a fixed utility cost of working.