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Time-poor, working, super-rich

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ABSTRACT

This paper revisits the standard model of labor supply under two additional assumptions: consumption requires time and some limited amount of work is enjoyable. Whereas introducing each assumption without the other one does not produce novel insights, combining them together does if the wage rate is sufficiently high. For top earners, work has a positive marginal utility at the optimum and above a critical wage level it converts into a pure consumption good. Their labor supply curve is first backward bending and then vertical. This can justify an optimal marginal tax rate on top incomes equal to 100%%. Top earners in the vertical half-line of the labor supply curve optimally refrain from spending their entire income. At the macroeconomic level, this can generate a lack of effective demand. With some qualifications, these findings carry over to models that include savings and philanthropy.

1. Introduction

In the U.S., the richest 0.01%% households account for about five percent of total household income and eleven percent of total household wealth.[1] These super-rich with yearly incomes in excess of $10m represent a tiny fraction of the population but a significant share of the economy: their choices and reactions to policy matter for the aggregate output level and the fiscal capacity of the state. Despite the growing economic significance of the super-rich in large parts of the globe, not much has been done to develop theoretical models especially tailored to analyze their behavior. In particular, the standard neoclassical model of labor supply is still at the heart of both public-finance analyses of optimal taxation and DSGE analyses of macroeconomic policies with heterogeneous agents. The aim of this paper is to propose two simple modifications of the standard labor supply model that make it better suited to portray the labor supply of the super-rich, to derive their main implications, and to discuss the novel insights offered by such a model.

Most economists would likely subscribe to the following two statements: (i) some work enhances well-being; (ii) consuming goods require time. Yet, both (i) and (ii) are neglected by the standard model of labor supply. Since the key properties of labor supply are deemed to be independent of (i) and (ii), by Ockham's razor they are dropped. I am going to show that for agents with very high wages – the working super-rich – this is unwarranted: combining assumptions (i) and (ii) generates insights that profoundly differ from those delivered by the standard model, with noticeable implications for tax policy and in the realm of macroeconomic management.

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[1] See Saez (2015) and Saez and Zucman (2016). Atkinson and Piketty (2010) offer a historical perspective on the economic role of top incomes. In 2014, according to Forbes Magazine, the twenty-five highest-earning hedge funds managers and traders made on average $500m in personal income.

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Assumption (i) - Some work enhances well-being – has received an enormous empirical support from studies in psychology, sociology, economics and management science.[2] For one thing, work is a crucial source of identity and social relationships. Most people maintain that laziness is wicked, many believe that work is a duty towards society, and some think that hard working is virtuous. For another, individuals in control of their work secure some gratification from efficiently performing their work activities. Mastery of a working task is then a source of pleasure, pride, and personal fulfillment. A taste for efficacy is likely to have been selected by nature because of its survival value. The presumption that some work enhances well-being suits especially well the working super-rich because they do not have to work and enjoy a great latitude in choosing the type of working activity they perform. Furthermore, they are compelled to show that they deserve their riches and may enjoy the power over other people associated with their jobs. Therefore, I will make the assumption that labor effort, up to some level, increases utility.[3] It is well known that by itself this is an innocuous modification of the standard neoclassical model of labor supply. Its key properties depend on the marginal rate of substitution between consumption and leisure and this will be positive at the individual optimum even if inframarginal units of labor add to the agent's utility up to some level. However, this may cease to hold if the time-consuming nature of consumption is simultaneously taken into account.

Assumption (ii) - Consumption requires time – made its inroad in economics through Becker (1965) who put forward the time opportunity costs of consumption activities on top of their market prices. By way of an example, the total economic cost of enjoying a movie at the cinema may amount to the money disbursed for the ticket plus the value of the moviegoer's time. As shown by Kleven (2004), commodities that require more consumption time should be taxed more heavily. Since the time endowments of individuals are finite, their ability to consume may be limited by their scarcity of time rather than money. In the first place, this is likely to concern the super-rich, whose time endowments are not a large multiple of the time endowments of the bulk of the population, but whose incomes are. As a matter of fact, the marketing disciplines have long recognized the key role of time constraints in shaping the consumption patterns of the super-rich. Marroun et al. (2014, p. 3) write: "The working rich are time poor because they are unable to consume all the products and services they might desire. They may try to make more time by having others attend to various things that would otherwise occupy their time... Knowledge constraints limit consumption because even though they can do more or less anything they want, they have to know about them and learn how to consume and appreciate them... there is also a need for inventing new things to do - a form of what we might call "consumer entrepreneurship"."

Incorporating assumptions (i) and (ii) in an otherwise standard model of labor supply yields the following insights. First, agents with very high wages optimally stop working at a point where their marginal utility of work is still positive. Those agents forgo enjoyable work in order to have more time for their consumption activities. Second, the labor supply of such top earners is backward bending even in the absence of income effects. Their time constraint binds at the optimum and the increased consumption which is made possible by a higher wage mechanically reduces the time available for work. Third, the optimal top marginal tax rate on labor income is 100%% if the cutoff level of income for the top tax bracket is high enough. As the labor supply curve of the super-rich is backward bending, a higher tax rate increases their labor supply, and thus the tax revenue that can be redistributed to the poor. Fourth, the super-rich may optimally leave some income unspent because they lack the time to consume it. They earn such an excessive income because they enjoy their work. At the macroeconomic level, this joy of earning implies that aggregate demand falls short of aggregate supply. Since the insufficiency of effective demand increases with the income share of the super-rich, a rising income concentration can reduce aggregate output below its potential if it is not offset by policies that raise aggregate spending.

The quest for parsimony that invites theorists to neglect assumptions (i) and (ii) should therefore not be embraced too soon if one wants to analyze the labor supply of top earners and obtain policy recommendations. In the case of the super-rich, there are no systematic and reliable empirical data on their work and consumption behavior. This makes a careful evaluation of the mechanisms put forward by the theoretical literature all the more relevant. Models that feature (i) and (ii) should thus complement models that highlight other aspects of reality in order to arrive at robust policy conclusions.[4]

The remainder of the paper is organized as follows. Section 2 incorporates the assumptions (i) and (ii) discussed above in the standard labor supply model and develops novel insights into the behavior of the labor supply curve at very high wages. Sections 3 and 4 extend the model of Section 2 in order to assess the robustness of its insights to the inclusion of savings and private transfers, i.e. ways to allocate income that do not hinge on time availability to the same extent that consumption activities do. Section 3 studies a model of non-overlapping generations of super-rich linked by altruistic transfers; Section 4 examines charitable giving in a warm-glow setting.

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[2] In psychology, see e.g. Deci and Ryan (1980) and Csikszentmihalyi and LeFevre (1989). An extensive discussion of the sociological literature is offered by Baron (1988). Kreps (1997) gives an insightful account from an economist's perspective.

[3] This assumption plays a key role in very different contexts studied by Corneo and Rob (2003) and Funk (2015). In Corneo and Rob (2003), it is used in order to explain why public firms offer wage contracts with weaker incentives than their private counterparts. In Funk (2015), it is used in relation to human capital accumulation in order to show the possibility of a persistent division of society into two groups, the educated rich and the uneducated poor.

[4] For instance, Piketty et al. (2014) highlight responses to top marginal tax rates that occur through tax avoidance and compensation bargaining. Other aspects studied by the literature and neglected in the current paper include the role of occupational choice, innovation, winner-takes-all compensation, status seeking, and migration.