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Positional preferences in time and space: Optimal income taxation with dynamic social comparisons☆☆

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ABSTRACT

This paper concerns optimal redistributive non-linear income taxation in an OLG model, where people care about their own consumption relative to (i) other people's current consumption, (ii) own past consumption, and (iii) other people's past consumption. We show that both (i) and (iii) affect the marginal income tax structure whereas (ii) does not. We also derive conditions under which atemporal and intertemporal consumption comparisons give rise to exactly the same tax policy responses. On the basis of the available empirical estimates, comparisons with other people's current and past consumption tend to substantially increase the optimal marginal labor income tax rates. Yet, such comparisons may either increase or decrease the optimal marginal capital income tax rates.

1. Introduction

A rapidly growing body of evidence suggests that people have positional preferences in the sense of deriving utility from their own consumption relative to that of others.[1] Alongside this development, a corresponding literature dealing with

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[1] This includes evidence from happiness research (e.g., Easterlin, 1995, 2001; Blanchflower and Oswald, 2004; Ferrer-i-Carbonell, 2005; Luttmer, 2005; Clark and Senik, 2010) and questionnaire-based studies (e.g., Johansson-Stenman et al., 2002; Solnick and Hemenway, 2005; Carlsson et al., 2007). See also, e.g., Marmot (2004) and Daly and Wilson (2009) for evidence based on physiological studies, and Fliessbach et al. (2007) and Dohmen et al. (2011) for evidence based on brain science. Bowles and Park (2005) and Oh et al. (2012) analyze variations in work hours between countries and over time, and find that social comparisons are important driving forces behind changes in work hours.

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optimal policy responses to positional concerns has evolved, showing that such concerns may have a substantial effect on the incentive structure underlying public policy. Within the literature on optimal income taxation,[2] it has for example been shown that social comparisons may motivate substantially higher marginal income tax rates than without such comparisons; see, e.g., Boskin and Sheshinski (1978), Layard (1980), Oswald (1983), Tuomala (1990), Blomquist (1993), Ireland (2001), Aronsson and Johansson-Stenman (2008, 2010, 2013), Wendner and Goulder (2008) and Wendner (2010a).

Yet, almost all earlier studies on optimal policy responses to positional concerns that we are aware of assume that people only make "atemporal" consumption comparisons, by valuing their own current consumption relative to other people's current consumption. A much more general approach has recently been presented by Rayo and Becker (2007). According to their evolutionary model, selfish genes would prefer that the humans they belong to are motivated by their own current consumption relative to (i) their own past consumption, (ii) other people's current consumption, and (iii) other people's past consumption. In the macroeconomic literature of dynamic consumption behavior, (i) corresponds to what is typically denoted *habit formation* (sometimes denoted *internal habit formation*), (ii) corresponds to *keeping up with the Joneses*, while (iii) corresponds to *catching up with the Joneses* (sometimes denoted *external habit formation*).[3] The present paper takes these three types of consumption comparisons as a point of departure in a study of optimal income taxation in a dynamic economy.[4]

We develop and analyze an overlapping generations (OLG) model with endogenous labor supply and savings, where the consumers are concerned with their relative consumption and where nonlinear taxes of labor income and capital income are used for purposes of externality correction and redistribution. A dynamic model allows us to explore intertemporal aspects of consumption comparisons, and provides a natural framework for studying capital income taxation. The latter is important not least due to the difficulties of explaining the widespread use of capital taxes with conventional public economics models. Earlier research shows that relative consumption concerns may motivate such taxes (Aronsson and Johansson-Stenman, 2010), and one might perhaps conjecture such concerns to be particularly important when the concept of relative consumption has more than one dimension, as we assume here.

The literature on optimal redistributive taxation under relative consumption concerns is scarce, and almost all earlier studies are based on static models. The only exception that we are aware of is Aronsson and Johansson-Stenman (2010), who analyze optimal nonlinear income taxation in a dynamic economy where each consumer compares his/her own current consumption with other people's current consumption. Hence, their study neglects internal habit formation as well as the catching up with the Joneses type of comparison mentioned above, and focuses solely on consumption comparisons based on keeping up with the Joneses preferences. The present paper, in contrast, addresses the implications of such atemporal comparisons for optimal income taxation simultaneously with the implications of relative consumption comparisons over time. Another study related to ours is Ljungqvist and Uhlig (2000), who consider optimal labor income taxation in a dynamic representative agent model where the consumer preference for relative consumption is driven by a catching up with the Joneses motive. We generalize their approach in several different ways by (1) considering a broader set of tax instruments, (2) analyzing redistribution policy alongside externality correction, and (3) allowing keeping up and catching up with the Joneses mechanisms to be operative simultaneously.

These extensions are important. In addition to the empirical evidence for between-people comparisons mentioned above, there is evidence suggesting that people also make comparisons with their own past consumption (e.g., Loewenstein and Sicherman, 1991; Frank and Hutchens, 1993); indeed, such comparisons were discussed already by Veblen (1899). It also makes intuitive sense that old people compare their own consumption with several different reference levels, including what they recall about their own and others' consumption when they were young. Moreover, when growing up, most people are likely to receive information from parents and grandparents about the consumption (and other living conditions) characterizing earlier generations. The results from happiness studies have also documented that people's happiness adapts to income changes, consistent with the idea that the reference income increases over time when actual income increases; see, e.g., Stutzer (2004) and Di Tella et al. (2010). Specifically, Senik (2009) presents recent estimates regarding the importance of different kinds of comparisons over time, showing that subjective well-being is dependent on one's own standard of living

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[2] Other issues dealt with include public good provision (Ng, 1987; Aronsson and Johansson-Stenman, 2008; Wendner and Goulder, 2008; Wendner, 2014), social insurance (Abel, 2005), growth (Corneo and Jeanne, 1997, 2001; Wendner, 2010b, 2011), environmental externalities (Howarth, 1996, 2006; Brekke and Howarth, 2002; Wendner, 2005), stabilization policy (Ljungqvist and Uhlig, 2000), distributional consequences (Alvarez-Cuadrado and Long, 2012) and tax evasion (Goerke, 2013). See also Frank (1999, 2005, 2007, 2008) for extensive and illuminating informal discussions of relative consumption concerns and how the society should deal with them.

[3] The notion "keeping up with the Joneses" is unfortunately used with different meanings in the literature. It is either used to indicate social comparisons in the sense that my utility depends in part on my current consumption relative to your current consumption, as in our case, or it is used with more specific meanings, e.g., if you consume more now I will also consume more now. Similarly, the notion "catching up with the Joneses" may either, as here, simply mean that my utility today depends on my current consumption relative to your previous consumption, or it may reflect something more specific such that my consumption today increases with your previous consumption. No results in the present paper depend directly on the direction of people's consumption and leisure adjustment in response to a change in the reference consumption.

[4] The macroeconomics literature referred to above rarely analyzes the optimal policy responses to the externalities induced by relative consumption concerns. Ljungqvist and Uhlig (2000) and Gomez (2006) are two noteworthy exceptions.