



Keeping up with the Joneses, the Smiths and the Tanakas: On international tax coordination and social comparisons[☆]



Thomas Aronsson^{a,*}, Olof Johansson-Stenman^b

^a Department of Economics, Umeå School of Business and Economics, Umeå University, SE – 901 87 Umeå, Sweden

^b Department of Economics, School of Business, Economics and Law, University of Gothenburg, SE – 405 30 Gothenburg, Sweden

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ABSTRACT

Recent evidence suggests that social comparisons between people in different countries have become more important over time due to globalization. This paper deals with optimal nonlinear income taxation in an international setting, where consumers derive utility from their relative consumption compared both with other domestic residents and people in another country. The optimal tax policy in our framework reflects both correction for positional externalities and redistributive aspects of such correction due to the incentive constraint facing each government. If the national governments behave as Nash competitors to each other, the resulting tax policy only internalizes the externalities that are due to within-country comparisons, whereas the tax policy chosen by the leader country in a Stackelberg game also to some extent reflects between-country comparisons. We also derive globally Pareto-efficient tax policies in a cooperative framework, and conclude that there are potentially large welfare gains of international tax policy coordination.

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1. Introduction

The issue of international tax coordination has recently gained much attention, largely due to the work by Piketty (2014). His central policy recommendation in order to deal with growing inequalities is international tax policy coordination, in particular with respect to capital taxes and progressive income taxes, where the need for tax coordination is motivated primarily by international capital mobility. In the present paper we analyze another potentially powerful motive for international tax coordination, namely international social comparisons. Our motivation and approach are outlined below.

The globalization process has implied that information about people and their living conditions in other parts of the world has increased rapidly in recent decades. Indeed, the technological advancement of TV, Internet, and social media together with increased traveling have resulted in much better knowledge of the living conditions of others, and of some people in particular (such as the rich and famous), than was the case only a couple of decades ago. This suggests that people's reference consumption is increasingly determined by consumption levels in other countries than their own. The present paper examines such between-country comparisons and identifies the corresponding implications for optimal income tax policy, which to our knowledge have not been addressed before.

A rapidly growing literature deals with optimal tax policy implications of relative consumption concerns based on *one-country* models; see, e.g., Boskin and Sheshinski (1978), Oswald (1983), Frank (1985a, 2005, 2008), Tuomala (1990), Persson (1995), Corneo and Jeanne (1997), Ljungqvist and Uhlig (2000), Ireland (2001), Dupor and Liu (2003), Abel (2005), Aronsson and Johansson-Stenman (2008, 2010), Wendner (2010, 2014), Alvarez-Cuadrado and Long (2011, 2012), Eckerstorfer and Wendner (2013), and Kanbur and Tuomala (2014). Our paper extends this literature to a *two-country* framework, where each individual derives utility from his/her relative consumption

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* Corresponding author.

E-mail addresses: Thomas.Aronsson@econ.umu.se (T. Aronsson), Olof.Johansson@economics.gu.se (O. Johansson-Stenman).

compared both with other domestic residents and people in the other country. More specifically, the main purpose is to examine the implications for optimal income taxation of such a broader framework for social comparisons. In doing so, we analyze the tax policy outcome of Nash and Stackelberg competition between national governments as well as characterize the Pareto efficient marginal income tax structure for the global economy as a whole.

Much of the empirical happiness and questionnaire-based research dealing with individual well-being and relative consumption is silent about the role of cross-country comparisons, which is not surprising given the difficulties of measuring such effects.¹ Yet, several authors have recently suggested that such comparisons have most likely become more important over time (e.g., Friedman, 2005; Zhang et al., 2009; Clark and Senik, 2011; Becchetti et al., 2013).² For example, Becchetti et al. (2013) examine the determinants of self-reported life satisfaction using survey-data for countries in Western Europe from the early 1970s to 2002. To be able to assess the effects of cross-country comparisons and whether these effects have changed over time, the authors control for determinants of subjective well-being discussed in earlier literature, including relative income measures based on national comparisons (across education, age, and gender groups) as well as domestic GDP. Interestingly, the results show that the distance between the GDP of the individual's own country and the GDP of the richest country in the data reduces individual life satisfaction, and that the contribution of such cross-country comparisons to well-being increased over the study period. A possible interpretation is that the increased globalization through technological advancements in recent decades has meant that social comparisons between countries now have a greater influence on individual well-being than before.³

Moreover, Piketty (2014) argues that cross-country social comparisons seem to constitute an important part of the motivation behind Thatcher's and Reagan's drastic income tax reductions in the early 1980s. At that time, both the US and the UK had seen lower growth rates than other Western European countries and Japan for several decades and hence experienced that other countries were catching up. According to Piketty (2014, 509): "For countries as well as individuals, the wealth hierarchy is not just about money; it is also a matter of honor and moral values."

The policy implications of social comparisons between countries remain largely unexplored. To our knowledge, the only exception is Aronsson and Johansson-Stenman (2014), who analyze the optimal provision of national and global public goods in a two-country setting where each individual derives well-being from his/her relative private consumption through within- and between-country comparisons, as well as from the relative consumption of national public goods through between-country comparisons. However, their study does not address optimal taxation but implicitly assumes that each government can raise sufficient revenue for public provision through lump-sum taxation, implying that both externality-correcting and redistributive roles of the tax system are ignored.

¹ See, e.g., Easterlin (2001), Johansson-Stenman et al. (2002), Blanchflower and Oswald (2004), Ferrer-i-Carbonell (2005), Solnick and Hemenway (2005), Carlsson et al. (2007), Clark et al. (2008), Senik (2009), Clark and Senik (2010), and Card et al. (2012). This literature typically assumes that relative consumption concerns are driven by within-country comparisons (based on various reference groups) or does not specify relative consumption in a jurisdictional context. Evidence for relative consumption concerns can also be found in literature on brain science (Fließbach et al., 2007; Dohmen et al., 2011) and in experimental work on productivity (Cohn et al., 2014), and there are also plausible evolutionary explanations for such concerns; see, e.g., Rayo and Becker (2007) and Wolpert (2010).

² See also James (1987) for an early discussion of how tastes (including positional concerns) are transferred from developed to developing countries. Friehe and Mechtel (2014) analyze how the political regime affects preferences for conspicuous consumption based on data for East and West Germany after the reunification.

³ Arguably, this interpretation presupposes that relative consumption concerns are not independent of access to social media. Indeed, in a recent survey of Europeans, Clark and Senik (2010) found that people without access to the Internet are less concerned with their relative consumption than people with such access.

The present study adds at least two important new dimensions. First, since all previous studies on tax policy and relative consumption that we are aware of are based on one-country model economies, the policy incentives associated with between-country comparisons, as well as those resulting from interaction between such comparisons and the (conventional) within-country comparison, remain to be explored. Arguably, this is empirically relevant for the reasons mentioned above. Second, since between-country comparisons give rise to international externalities, the tax policies decided by national governments are no longer necessarily efficient at the global level. This leads to the question of tax policy coordination and cooperation among countries. There are of course other well-known arguments for coordinated tax policy, including cross-country environmental externalities as well as international labor and capital mobility; see, e.g., Carraro and Siniscalco (1993), Huber (1999), Aronsson and Blomquist (2003), Keen and Konrad (2013), and Bierbrauer et al. (2013). Yet, the issue of between-country comparisons has been neglected so far in the study of tax policy under social interaction. Since the aim is to better understand the mechanisms of social interaction and their tax policy implications, we will throughout the paper ignore these other motives for policy coordination. This does not reflect a belief that these other motives are less important, but rather that they are well understood from earlier research.

Section 2 presents the basic model of a two-country economy, where individual utility depends on the individual's own consumption of goods and leisure as well as on the individual's relative consumption based on within-country and between-country comparisons, respectively. Section 3 deals with optimal income taxation for a baseline case where individuals are identical within each country (although not necessarily between the countries). This model implies that income taxation has no redistributive purpose and is motivated solely by the desire to internalize the positional externalities. As such, it generalizes results derived by, e.g., Persson (1995), Ljungqvist and Uhlig (2000), and Dupor and Liu (2003) to a two-country setting. We start with the non-cooperative Nash solution, where each country takes the behavior of the other country as given. Each government will then fully internalize the positional externalities affecting people within its own country, but completely ignore the externalities affecting the other country. These externality-correcting taxes are expressed in terms of (empirically estimable) *degrees of positionality*, i.e., the degree to which relative consumption matters compared with absolute consumption.

However, while Nash competition is a common assumption in earlier literature on international externalities, it is not always the most realistic one since the ability to commit to public policy may differ among countries (e.g., due to differences in resources, size, and opportunities). Therefore, we also analyze a Stackelberg equilibrium where one country is acting leader and the other is a follower. While the policy incentives faced by the follower are analogous to those in the Nash equilibrium, we show that the leader will also take into account the externalities it causes to the follower country. The reason is, of course, that the leader recognizes the behavioral responses of the follower and adapts its tax policy accordingly. If the preferences of the individuals in the follower country are characterized by a keeping-up-with-the-Joneses property, such that they prefer to consume more (and hence use less leisure) when individuals in the leader country consume more, *ceteris paribus*, then this constitutes a reason for the government of the leader country to increase the marginal income tax rate beyond the Nash equilibrium rate, and vice versa.

Section 4 analyzes the potential for cooperative behavior. First, we show that there is scope for Pareto improvements through a small coordinated increase in the marginal income tax rates, if the economy is in Nash or Stackelberg equilibrium. Second, we consider a framework where each government can pay the other country for increasing its marginal income tax rates. We then obtain a globally Pareto-efficient allocation implying that each government will fully internalize all positional externalities associated with private consumption, including those imposed on the other country. This is in the symmetric case

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