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Homo Economicus is also a social animal; ergo, he can be taxed (all but costlessly)

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Abstract

Can rising income inequality be reduced by taxation without harming incentives? Yes, it can, when account is taken of man as a social animal who therefore seeks social status. What counts for social status is not our absolute resources but where we stand relative to others. The more incomes surpass subsistence needs, the more grows most people's desire for social standing. Therefore, any tax that leaves our rank unaffected will not harm our effort. Consequently, at very high incomes proportional taxes, despite maintaining progressivity and reducing inequality, should not distort incentives. A status game provides the paper's theoretical framework.

JEL Codes: D11, D31, H21

Keywords: Social utility function, Inequality, Taxation and incentives

1. Introduction

Man is a social animal; this is universally agreed. Yet homo economicus, as we usually know her, is interested only in what she does for her own self: what she consumes as food and drink, and the services she obtains, personally. Her utility lacks social aspects. There are exceptions. Duesenberry's (1949) relative-income hypothesis based consumption habits on those of the agent's social peers. Bergson's "A Reformulation of Certain Aspects of Welfare Economics", introduced in 1938, integrated a still-widely-used social-welfare function into microeconomics, and Becker (1976) suggested an economic explanation for altruism and egoism, which has spawned a lively literature. (Some of the most recent examples are Bester and Güth, 1998; Bolle, 2000; and Possajennikov, 2000.) Truyts (2010) even inserts particular goods into the utility function to account for socially motivated enjoyment such as conspicuous consumption. Yet all these contributions consider only the interrelation between the individual's utility and that of others. In this paper, I look directly at our utility as it is affected by our social ties. As I argue below, this is not a mere theoretical point; it has a direct impact on the costs of redistribution.

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Income redistribution is a topical issue at a time when the advanced Western economies and even the advancing Asian economies (Jain-Chandra et al., 2016) are being plagued by decades of rising inequality, a trend widely accepted as socially and politically dangerous (Kuhn, 2016). The recent U.S. election campaign shows that owners of extreme wealth seem able almost to buy the presidency; other such examples abound. Yet it is also believed that tinkering with market-determined distribution, for example, by imposing high marginal tax rates, saps incentives and prompts those affected to withdraw productive effort. Below, I contend that this assumption is unfounded due to the propensity in economics to disregard social needs. Once we take account in the utility function of homo socialis, or homo koinonikus[1], man or woman as a social animal, and recognize the need, for the great majority of us, for social status and rank, we find that redistribution should hardly affect incentives because what counts for social status is not the absolute value of the resources we command, or of any other badges of success, but where we stand relative to others in our reference group. Therefore, any change that leaves our rank within our social environment unaffected will not diminish our effort.

This paper takes account of the value of social ties by focusing on a single social element: our standing or status in our social groups. This is clearly a gross simplification that overlooks major social motives such as compassion and altruism, yet simplification is necessary at this stage. There is little need to argue that the great majority of healthy humans set much stock in what we feel that our social environment thinks of us, the respect it feels for us, and the support it is likely to give us when we encounter adversity.[2] I address myself to this determinant below by the introducing rank in social circles as a desideratum and an element in our utility function. For most of us, our human environment consists of several such circles and groups-our family, workplace or professional group, neighborhood, recreational circle of friends, and many others. We exert ourselves to attract others' appreciation and respect, directly and indirectly. We may believe that our success at work, the recognition we gain, and the wealth we amass

[1] I prefer the latter epithet because it avoids the hybrid Greek-Latin label. Indeed, Google Translate suggests Homo Koinonikus, or Κοινωνικός in pure Greek. I was fortunate in my presentation of the paper at the Berlin IAES conference to have two Greeks in the session, and I am grateful to Chris Stefanadis, who assured me that the term was correct.

[2] Evidence of the importance of rank can be found in Brown et al. (2008); furthermore, Charness et al. (2014) show that competition over status may even be destructive of value.

may help us in our outside circles. Conspicuous consumption is surely a case in point (Truyts, 2010; Economist, 2015d). But we may also contribute to our social environment directly by doing voluntary work; contributing resources, and involving ourselves in the manner in which our groupings are run.

In our age of lists and indices, one need hardly ask for evidence of the importance of rank.[3] In earlier times, the social system was quite rigid and "man knew his place." The few "social climbers" were looked down upon by the real gentlefolk. The pejorative *nouveaux riches* belongs to those past eras. Now the public at large has its various Forbes Lists; academics have Research Gate, social scientists the SSRN, and economists the RePEc (Economist, 2015a), each of which maintains rankings. And all these attest before even one mentions competitive sports and competition for promotion (and avoidance of demotion and termination) in places of work.

Rank may matter even among literary figures. Consider what Trollope says in his autobiography:

> "I do not at all desire to have letters put after my name, or to be called Sir Anthony, but if my friends Tom Hughes and Charles Reade became Sir Thomas and Sir Charles, I do not know how I might feel, -or how my wife might feel, if we were left unbedecked."

Yet he softens his potential sense of insult:

> "As it is, the man of letters … receives from the general respect of those around him a much more pleasant recognition of his worth." (Trollope, [1883] 2013)

Our standing in our membership groups is something that many of us take seriously and expend efforts and other resources on their respect. (Immorlica et al., 2017). Ambitious members may aspire to lead their social network or networks and may therefore be in continuous competition against other members of their group.[4] One's mere success in other walks of life may help one to gain a position of influence in quite unrelated groups; individuals whose names are generally recognized may thereby become desired social fellows. And once monetary income or wealth are seen as indicators of success and providers of rank, they too become desired objects.

[3] Ager et al. (2016) report an interesting case of status recognition. During WWII, the official mention of the accomplishments of fighter pilots led to increased efforts of their mates, efforts that were not in all cases favorable to the Luftwaffe.

[4] Yet see the limits of competition in Kato and Shu (2016).

Tournament theory assumes that the utility we obtain is convex in rank, not concave as in personal consumption. In reality, attitudes toward rank are idiosyncratic and depend on individual taste. For the ambitious, convexity may hold at all levels of rank; in other words, for her who aspires to lead her social niche, the value of rising by one tier of rank is greater when she climbs from the second to the first level than when she rises from the third to the second. Ceteris paribus, the closer ambitious individuals get to the top, the stronger are their incentives to exert themselves. Yet for others who do not wish to stand out from their mates, the contribution of rank to wellbeing may be concave. For both types, what counts in terms of utility is only the rank, the ordinal position, and possibly the importance of social cohesion also rises with income. Another example may be YouTube stars and other network stars: Although they start gaining financial benefits at some point there's a long climb up the social status ladder before that materialises. The same goes for performing artists or professional sports people. Thus, even for those for whom monetary returns contribute to social standing, if the distribution of the monetary indicators is compressed, nothing is lost in their effect on eliciting effort. This is so because what counts is not the monetary advantage we get from the rank but the rank itself. At times, external situations may give ranks their weighting: Gill et al. (2015) report that employers' evaluations, focusing on the top and the tail of workers, may lead to highest efforts observed among those who may hope to join the top echelon of their mates and may prompt our less fortunate colleagues to exert themselves in order to avoid being in the tail.

The importance of our social standing is second to our need for the essentials of life-basic nourishment, shelter, and health. Only once we have secured these bare necessities do we start paying increasing attention to our social needs. Therefore, the importance of rank increases as our income rises. Since rank is an ordinal, not a cardinal, quality, the inclusion of rank in our utility reduces the importance of our actual dollars-and-cents earnings. What counts is whether mine is higher than yours, not by how much.[5]

[5] This squares with Maslow (1943), who advanced the view that humans have a hierarchy of needs: "Human needs arrange themselves in hierarchies of pre-potency. That is to say, the appearance of one need usually rests on the prior satisfaction of another, more pre-potent need." Maslow listed five needs: physiological, safety, love, and esteem and self-actualization. The first two are basic necessities; love and esteem are social needs.

A couple of examples may be useful. Consider industrial leaders such as Bill Gates and Warren Buffett: would they have toiled any less if their income were taxed more heavily? The very fact that they have pledged most of their fortunes to what they see as the improvement of man's condition proves that riches are, at present, not their main motivation. Yet Buffett has definitely aimed to increase the value of the corporation he founded and leads, and Gates, at Microsoft, used aggressive means that the U.S. Department of Justice considered abusive practices in violation of the Sherman Antitrust Act 1890 (Wikipedia, 2025). Furthermore, Buffett advocated raising income taxes on the rich, himself included, saying that "[last] year my federal tax bill … was only 17.4 percent of my taxable income - and that's actually a lower percentage than was paid by any of the other 20 people in our office. Their tax burdens ranged from 33 percent to 41 percent and averaged 36 percent" (NYT, 2011; Worstall, 2011a).[6] Clearly, the productive contributions of both Buffett and Gates would not have been affected if they and their peers were to receive less than they did for their labor. Even individuals whose labor may have added only to their own satisfaction but not to that of society at large - some would say that Donald Trump fits that bill - would have exerted themselves no less had their incomes and riches been lower, provided those of others were similarly affected.

That potential income differentials are essential as incentives to elicit effort is accepted as a truism, as is the belief that income taxes dent the incentive for effort. Yet if the argument expounded above is correct, the truisms are not always true. If taxes do not impact effort significantly, it puts in doubt the widely accepted view that substantial income inequality is needed as an incentive for the exertion of effort and allows us to give higher priority to boosting equality. Note, however, that little is said in this paper about how this may be achieved. In particular, I argue that the effects of taxation on the incentive to exert is much more damaging at lower income levels, at which the great majority of society, including Buffett's secretary and her mates, travails, than at the highest reaches, where we may find some of the most productive members of society.

[6] The second source is interesting: Worstall quotes Buffett but argues that his words are misleading, because corporate taxes on dividends should be added to his personal income tax to obtain Buffett's true tax bill. He then discovered that Berkshire Hathaway, Buffett's source of income, does not pay dividends

Thomas Piketty (2014) summarized for us the facts on income distribution: it is quite clear now that income differences have become much more extreme in recent decades. Pickett and Wilkinson (2010) showed how these differences have harmed the quality of our lives and poisoned our social environment. Yet once we understand how our needs for social recognition affect our taste, it becomes clear that these differences can be attenuated at a much smaller economic cost than is usually assumed.

The basic model that introduces the notation used below follows. Section 3 and its subsections characterize several representative types of agents and are followed by Section 4 and its subsections, which analyze the game induced by the foregoing assumptions and lead to a choice of effort that focuses on the influence of the social aspects of agents' tastes. Section 0 presents empirical evidence in support of the homo koinonikus perspective and Section 0 suggests policies that flow from it. Section 6 concludes.

2. The basic model

The agents who play our game exert themselves for two purposes: to consume goods and services and to gain social standing – rank - in their social environment. Most of us belong to several social groupings, but this is simplified here to assume that each agent belongs to a single circle, in which she obtains her social rank. Rank, r, is the outcome of a game between the agent and all other members. To simplify again, utility is assumed to be separable into three variables: effort x, used in the risky production of y, consumed income, and r, which depends on the agent's assumed gauge of success, namely, her output or income:

$$v = u\big(y(a,x,\varepsilon)\big) + \rho(y)w\big(r(y,\hat{\boldsymbol{y}})\big) - d(x),$$

where $y = a + x + \varepsilon$, and a represents the individual's ability and ε denotes her idiosyncratic random disturbance drawn from a common distribution whose density is denoted by ϕ,$E[\varepsilon] = 0, \quad E[\varepsilon^2] = \sigma^2$

ρ(y) describes the idiosyncratic strength of the player's social needs at any level of resources, i.e., income y. ρ(0) = 0, ρ" >>0. Thus, when the agent's means are very low, consumption is her sole concern and the need to maintain subsistence receives absolute priority. When means become more abundant, the importance of social needs increases. A fuller characterization of various ρ-types is provided in Section 30.

The only random element in the model is each player's idiosyncratic risky production. Agents maximize expected utility, V:

$$V = E[v] = E[u(y)] + \rho(y)E[w(r(y,\hat{\mathbf{y}}))] - d(x|a) =$$
$$= U + \rho(y)W + \ln(1-x) \qquad \text{U}$$

is concave in consumption, y; W is affected by the opponents' outputs, hence their strategy $\hat{\boldsymbol{y}}(\hat{\boldsymbol{x}})$, where $\hat{\boldsymbol{y}}$ is a vector of the other players' outputs, its properties idiosyncratic, depending on the shape and strength of the individual's social tastes[7]. Its weight in utility increases with y. The choice of $d(x) = -ln(1-x)$ sets a bound to exertion. The productive service, x, represents the quality as well as the quantity of effort. The first-order equilibrium condition is

$$E[U'] + \rho(y)E\left[W'\frac{dr}{dx}\right] = \frac{1}{1-x}.$$

which need not be unique, and the maximizer needs to be selected from among the points at which the second-order conditions hold.

The principal difference between c and r at higher income levels is that unlike consumption, in which marginal utility diminishes throughout, that of rank may for many actors be increasing. What is more, actors' social tastes differ. For very ambitious agents, utility may always be convex in rank, yet we assume that the benefit of rank is always bounded. Since effort disutility, d, diverges close to the actor's limit, $x = 1$, we are assured of an equilibrium point at which the first- and second-order conditions hold; U is always concave, only ρ(y) and W require further analysis.

The following section describes a couple of characteristic agents.

[7] Bull et al. (1987) present evidence on taste differences with respect to tournaments.

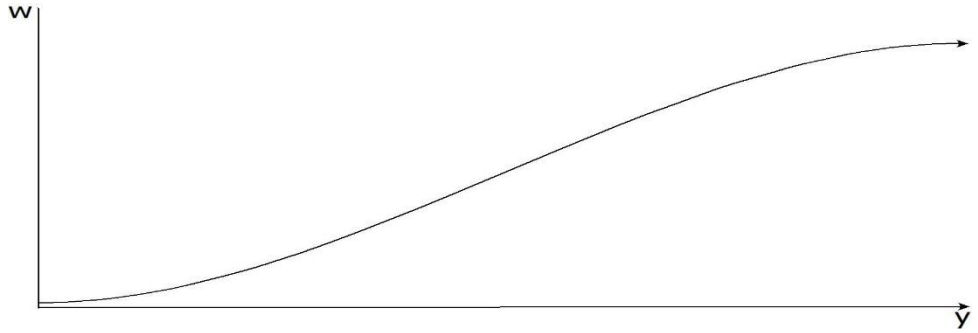
3. Characterizing the actors

When competing against other actors, most players can assume most of the time that their actions do not affect others' strategies. This applies particularly to agents of limited ambition or ability.

3.1. The easygoing agent

Agents who seek a respectable position in a community grouping but do not aspire or expect to attain its top, the leadership group, may be concave in rank at high rank. Even highly able but unambitious players will be content to stay with the crowd and not compete for top positions. The great majority of players may belong to this category.

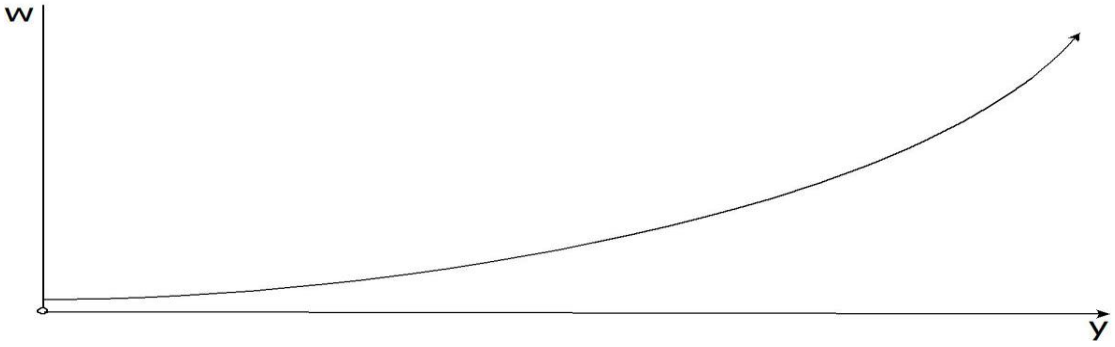
Figure 1: Easygoing agent



3.2. The ambitious agent

Highly ambitious individuals have a highly convex W function. They include high-ability ambitious agents, whose numbers in any community are probably limited. These original and capable individuals, whose contribution to society and economy we value and seek, are the ones whose effort-eliciting incentives deserve priority in social and economic policies. Their ranks are determined in games among the few, analyzed in Section 4 below. Low-ability ambitious players may find themselves competing against the main body of the crowd even though they would prefer to be closer to the top. Given this assumption, their behavior may be analyzed using tools of perfect competition in disregard of the effects of their strategy on other competitors.

Figure 2: The ambitious agent



3.3. The asocial agent

The asocial group is a mixed bag. Some of its members may be highly independent individuals who believe they can thrive apart from society. Their W is flat and low and they exert themselves mainly for their personal benefit; thus, only their own consumption will motivate them. Their choice of effort is driven all but exclusively by the utility of their personal consumption. Still, we should remember that this may include work that may affect a broad circle of others, as happens when the agent is an artist who produces for herself objects that others may enjoy. Being uncompetitive, their W' in Equation (3) will be very small and can be disregarded. Other agents, psychopathic ones, may hate society and try to inflict damage on their community. For them too, rank is of no concern and if the social damage they cause does not depend on other actors, the competitive game is absent. For the psychopath, social consumption is not a good but a bad. Yet it behaves like the rest of consumption, although negative in sign. Therefore, the analysis of their choice of exertion does not differ from that of their benevolent brethren.

4. The game: effort choice by ambitious and able social agents

When determining how hard to exert herself, the player in the social game has to consider the cost of her effort-its disutility-against its expected contribution to both her consumption and the advancement of her social rank. Since only the latter is novel, highly simplifying assumption are made about the remaining arguments of utility. Thus, the utility of personal consumption and disutility of effort are assumed to be identical for all actors. Using the notation set forth in Section 2, x represents the first agent's

effort and $\hat{x}$ or $\hat{\boldsymbol{x}}$, respectively, her opponent's or opponents': $r = r(x|\hat{x})$ or $r = r(x|\hat{\boldsymbol{x}})$.

The following subsections describe the game played by the potential leaders of their group, a small number of ambitious and able individuals, in which the actors' ranks are determined. Subsection 4.1 describes the basic game, competition between two agents; Subsection 4.2 sets up the competition among three agents.

4.1. The basic, binary case

Whether Player 0 is the winner depends on the relative size of y and $\hat{y}$, i.e., of $a + x + \varepsilon$ and $\hat{a} + \hat{x} + \hat{\varepsilon}$: thus $r = 1$ and $\hat{r} = 2$ when $a + x + \varepsilon > \hat{a} + \hat{x} + \hat{\varepsilon}$, and $r = 2$ and $\hat{r} = 1$ otherwise. ϕ and Φ denote the identical density and distribution of the random i.i.d. ε and $\hat{\varepsilon}$. Let W denote the expected utility of rank to Player 0:

$$W = E\left[w\left(r(y, \hat{\boldsymbol{y}})\right)\right] = P(y > \hat{y})w(1) + (1 - P)w(2)w(r),\ r = 1,2,$$

denoting respectively the utility of the first and second social position, and denotes the probability of $y > \hat{y}$.

The two agents' strategy variable is the input of effort or exertion they expend, x and $\hat{x}$. Agents maximize their expected utility, V or $\hat{V}$, where the disutility of effort is, respectively, $ln(1 - x)$ and $\ln(1 - \hat{x})$:

(5) $$V = U(x) + W(x|\hat{x}) + ln(1 - x).$$

The probability of player 0 winning is:

(6)

$$P\left(y > \hat{y}\right) = P\left(a + x + \varepsilon > \hat{a} + \hat{x} + \hat{\varepsilon}\right) =$$
$$= P\left(\delta a + \delta x > \hat{\varepsilon} - \varepsilon\right) = \Phi\left(\delta a + \delta x\right)$$

where $\delta a = a - \hat{a}, \delta x = x - \hat{x},$ and $\xi = -\varepsilon + \hat{\varepsilon};\quad E[\xi] = 0,\quad E[\xi^2] = 2\sigma^2,$ since the random disturbances ε and $\hat{\varepsilon}$ are i.i.d. Denoting $\Delta = w(1) - w(2),$

$$W = \Phi(\delta a + \delta x)w(1) + (1 - \Phi)w(2) = w(2) + \Delta\Phi(\delta a + \delta x).$$

This prepares the ground for the choice of effort. At the preferred point, the marginal disutility of effort, MdU, should equal the sum of the marginal utilities of consumption and of rank, MU and MW respectively (see Equation 3):

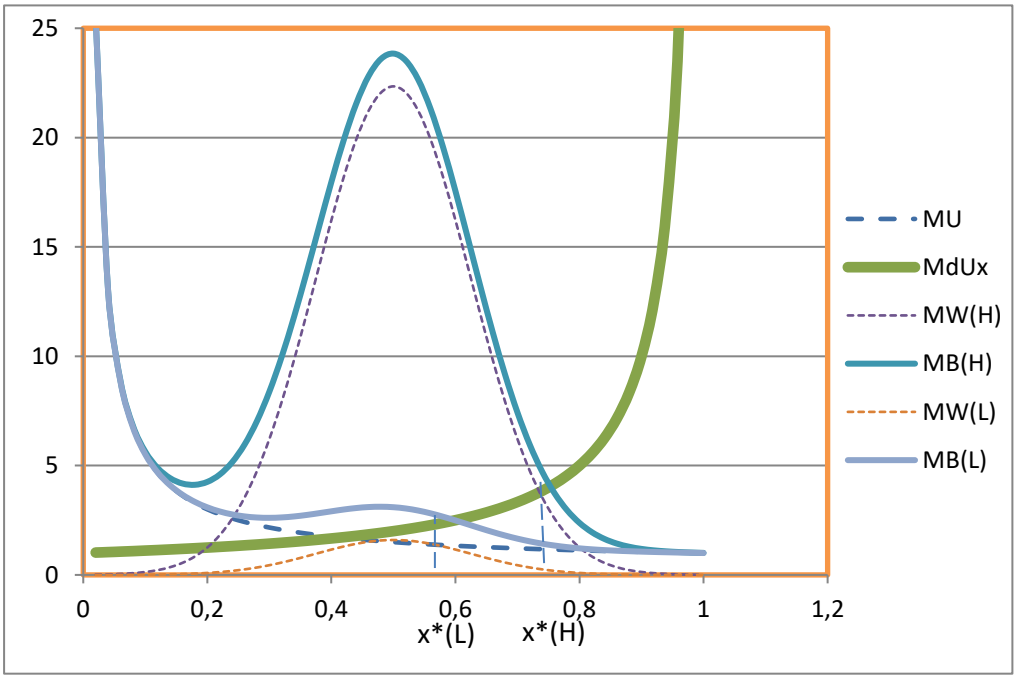
(7)

$$MU + MW = MdUx$$

$$\int u'\big(y(x,a)\big)\phi(\varepsilon)d\varepsilon + \Delta\phi(\delta a + \delta x) = (1-x)^{-1}$$

This relation is illustrated in Figure 3, which compares the choice of an ambitious player and one who cares little about her social standing. In all other respects-ability, taste for consumption, and their environment-the uncertainty they face-they are identical. Hence the utility function of their consumption, MU, is identical; they differ only with regard to their social benefits. The latter, MW, is much higher for the ambitious agent; compare the two dotted curves, MW(H) and MW(L). The location of MW depends on the opponent: the higher her ability and effort, the more it shifts to the right. $MB = MU + MW$ summarizes the marginal benefits of effort for consumption and social standing, respectively, while MdUx captures its marginal costs; the meeting point between the two is the agent's choice point. Observe that the colors of MB(H) and MB(L) are very similar yet different. It can be seen in Fifure 3, where x*(H)> x*(L).

Figure 3: Effort choice in game between two agents



4.2. Competition among three agents

Consider now a game with three participants, each endowed with a level of ability, a, and each selecting her effort to optimize her utility; here the agent's rank is determined in the random game against the remaining two players. In the general n-person game, each player is in fact competing against each and every one of the n–1 other players in a game that determines which of them gains a higher rank; if she loses against m players and wins against n–m–1, then her rank is m+1. The game against each of the n–1 competitors is identical to that against a single opponent, the only difference being each actor's need to take into account the strategies of each of the others. For the three-player game, the structure of Subsection 4.14.1. is maintained:

(8)

$$W_0 = w(1)\Phi(\delta a_1 + \delta x_1)\Phi(\delta a_2 + \delta x_2) + \\ +w(2)\left[\Phi(\delta a_1 + \delta x_1) + \Phi(\delta a_2 + \delta x_2) - \Phi(\delta a_1 + \delta x_1)\Phi(\delta a_2 + \delta x_2)\right] + \\ +w(3)\left[1 - \Phi(\delta a_1 + \delta x_1) + \Phi(\delta a_2 + \delta x_2)\right]$$

where $\delta a_i = a_0 - \hat{a}_i, \delta x_i = x_0 - \hat{x}_i, i = 1,2,3.$ As for Φ, since the random disturbances, ε_0 and $\hat{\varepsilon}_i$, $1 = 1,\ldots,n-1,$, are i.i.d.. $\xi = -\varepsilon_0 + \hat{\varepsilon}_i; E[\xi_i] = 0, E\left[{\xi_i}^2\right] = 2\sigma^2$. Denoting $\Delta_r = w(r) - w(r+1)$, Equation (8) may also be written:

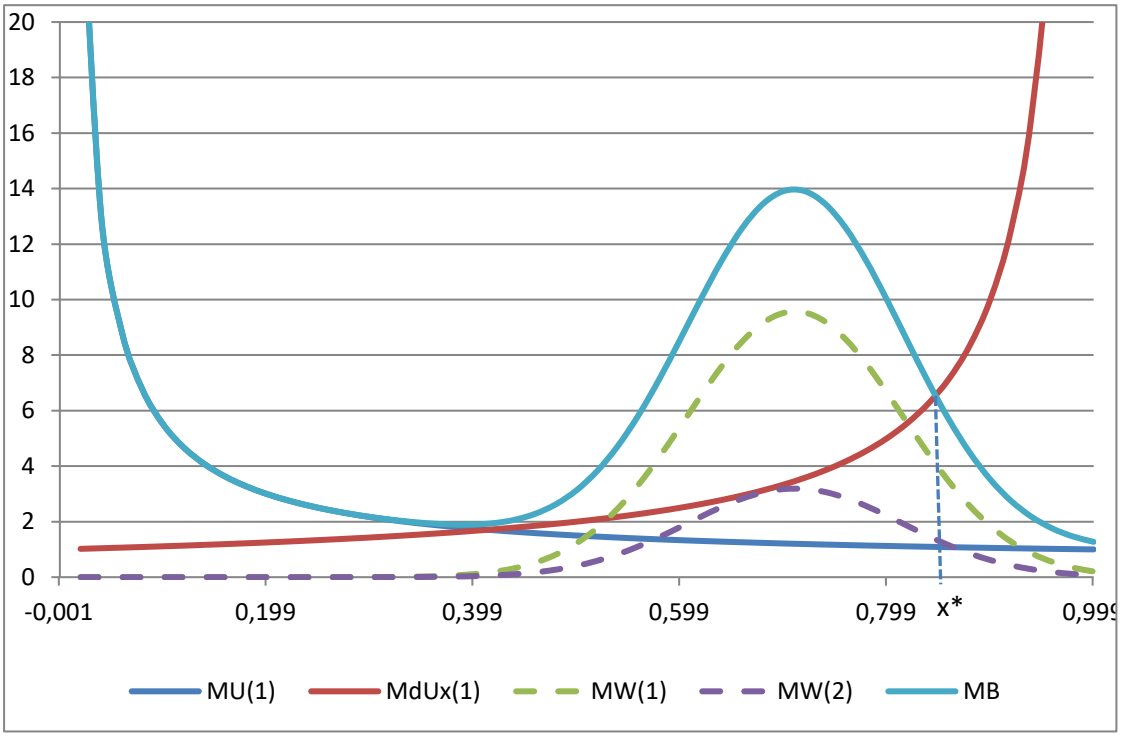
(9)

$$W_0 = w(3) + \Delta(1)\Phi(\delta a_1 + \delta x_1)\Phi(\delta a_2 + \delta x_2) + \\ +\Delta(2)\left[\Phi(\delta a_1 + \delta x_1) + \Phi(\delta a_2 + \delta x_2)\right]$$

Figure 4 illustrates Equation (8) and Agent 0's choice of effort, where n=3. As in the previous figure, the MdUx curve is the marginal disutility of 0's effort. The dashed MW(1) represents the marginal addition to her utility through the increased probability of gaining the first rather than the second rank and MW(2) - the similar addition from not being the last in the race. MB - the sum of marginal benefits of effort from direct

consumption - MU - and the two MWs; the effort level at which MB and MdUx are equal, x* in the figure, is the preferred input of effort.[8]

Figure 4*:* three-player game



5. Empirical evidence

Supposing the hypothesis advanced in the previous sections is correct, how should this affect observed behavior? It was argued that at low-income levels most people are concerned mainly with their actual consumption and therefore strive to obtain an income that supports their personal needs, but at higher incomes social needs grow in importance and the role of income is to facilitate the attainment of social status. Therefore, high marginal tax rates on personal incomes distort low earners' effort incentives but should not affect those of very high earners, as long as they do not distort ranking.

The post-World-War-II period was characterized by extremely high marginal rates on very high incomes in many advanced countries (but see Schiff, 2012; Pethokoukis,

[8] Provided, of course, that the second-order conditions hold. The location of the two *MW*(·) curves does of course depend on the other player's exertion and ability: as they rise, they shift it rightward.

2012). The same period was also characterized by very vigorous growth rates (Hungerford, 2012; Shlaes, 2013). Is this evidence that high efforts need not be sullied by high tax rates? The problem is that the strong growth rates were abetted by additional factors. For instance, even though some countries sustained extensive destruction during the war, much of their capital could be put back into operation after minor repairs.[9] In other countries, such as the U.S., which had suffered from lack of demand in the 1930s and had enjoyed a bout of investment during the war, all that was needed was to convert the added capital from military to civilian uses. Thus, the evidence is incomplete.

The effect of taxation on work and growth has received much attention in the literature; only few contributions will be mentioned below. Prescott (2004) blames higher European taxation for lower labor input in Europe than in the US. Mocan and Pogorelova (2015) compare cultural effects as well as taxes on labor. Jing (2011) ranks the effects of various classes of taxes on growth. (Corporate and personal taxes reduce long-term income and taxes on property do so much less, as is to be expected.) Engen and Skinner (1996) find that "a 5 percentage point cut in marginal tax rates … [may lead to a] 0.2 to 0.3 percentage point difference in growth rates" (p. 617)—quite a substantial increase. None of these studies touches on the issue of interest: do high marginal tax rates on the *very* highest or richest earners impinge on their productive efforts? Knoeber and Thurman (1994, pp. 167, 178) show that in a tournament-like environment "changes in the level of prizes that leave prize differentials unchanged will not affect performance," a finding that supports the general approach of this paper.

The growth rate is far from an ideal proxy for social exertion but it seems that none better exists. A major disadvantage is that investment is a primary driver of growth, and only a small yet possibly critical constituent of investment may be ascribed to human inventive effort. Investment is initiated predominantly by firms that are motivated by profitability and thus are directly affected by taxation and, when one looks at the impact of taxation on growth, one should exclude those taxes that affect only corporate investments. Hence only personal income taxes, consumption taxes, and property taxes are relevant to the question at hand.

[9] Think of Kremer's O-Ring hypothesis in reverse (Kremer, 1993).

Arnold (2015), in a recent influential examination of the impact of the structure of taxation on growth, keeps the total tax burden unchanged when he examines the effects of a tax, by measuring the influence of an increase in the one and a revenue-neutral reduction of the other. This procedure establishes a clear ranking of the four taxes he looks at from the least to the most harmful: property, consumption, personal income (and corporate taxes, the latter not relevant in the present context, the worst).[10] Another parameter looked at by Arnold is the progressivity of income taxes. This, however, leaves our question unanswered: we are interested in the effect of personal taxes on the highest earners, those who clearly do not need their income for personal consumption. Had Arnold looked at the top marginal income tax of the highest, not the average, earner, his result would have been relevant to our subject. Yet "[T]he progressivity measure is defined as 1- (100- marginal tax rate)/(100-average tax rate), evaluated at *the average production worker* wage" (Arnold, 2015, fn. 12, p. 14; emphasis added), namely, it measures the effect of marginal taxes on the average taxpayer rather than the top of the distribution, those for whom additional income serves mainly in their competition for social success.[11]

Inequality itself may affect growth. The extant literature on this issue is reported in Bagchi and Svejnar (2013) and need not be repeated here. Yet the recent series of papers by Bagchi and Svejnar (2013 and 2015; also Svejnar, 2016) illuminates an important aspect of the debate and is highly germane to our problem. They focus on the extremely rich, viz., on billionaires. If inequality harms growth, then the increase in the quantity and share of resources held by the latter should be a brake on development. They find that it is not the share of billionaires as such that harms growth, but only the share of those who made their fortune via political connections or inheritance; self-made successful and wealthy entrepreneurs who were not politically connected had no significant effect on growth; if anything, they had a positive rather than a negative statistically insignificant effect. Billionaires who belong to this latter group are also those who tend to donate more to charity (Coupe and Monteiro, 2016) and such donations actually help to bond them into a network, a group (Immorlica et al., 2017).

[10] Unlike Arnold, Xing (2011) does not find that the structure of taxes significantly affects growth.

[11] It should also be noted that whereas Arnold (2015) keeps total tax receipts unchanged by reducing an alternative tax, the effect on total receipts is of secondary concern to us when the reduction of inequality is our primary concern.

So far I have not found any empirical information that might shed direct light on the actual truth of the hypothesis advanced in this paper. Therefore, it has to be left to introspection and insight—of ours and of others.

6. Policy Implications

Suppose most people's tastes are well-described by the hypothesis that at low-income levels what affects their wellbeing is the absolute level of their income, and as income levels rise, it is their position relative to their relevant circle that counts. If this is so, high marginal tax rates should be injurious to the efforts of low-income players, but at high income levels rank preserving taxes would hardly affect exertion.[12] Yet when actual taxation is examined in most Western countries, the structure found is the exact opposite: marginal taxes on high incomes are very low (and in some countries, such as the U.S., even average taxes borne by the highest thousandth of earners are lower than those in the highest percentile; see Buffett, 2011). For low earners, the opposite is the case: very low earners in many countries receive various transfers that are terminated once their income reaches an arbitrary still low level (e.g., Economist, 2016b). These threatening cutoff points, which occur at random income levels where specific benefits expire, impose marginal tax rates on low earners that may at times exceed 100 percent. They result in active discouragement of many of the poor to raise earning, that is, their efforts, at least those that are visible and reported. For another example, the U.S. and the UK have a subsidy for very low earners, an important incentive for low-skilled workers to enter the labor force. Yet in the UK, a previous chancellor of the exchequer had planned to abolish it; fortunately, he was dissuaded from doing so (Economist, 2015b, 2015c).

To sum up: the recent trend of rising levels of income inequality, regardless of their causes, is widely agreed to present a danger to social stability and to popular support for existing social and political institutions. Oddly, they may even have led to the unexpected outcomes of the U.S. elections in 2016. Therefore, the adjustment of tax systems to help narrow income disparities should be an obvious remedy. This is objected to with the argument that an increase in marginal taxes would harm incentives

[12] Assuming the economy is closed, this should be relatively simple. The possibility of escaping the clutches of the tax by moving to a lower tax haven limits the freedom of the taxman. I am grateful to Jonathan Willner, at the IAES congress in Berlin, for this point. See also Blundell, 2016, for a different and nuanced view.

and stanch growth. If our suggested hypothesis is true, then the abolition of the effort-damaging cutoff points for transfers, financed by raising marginal taxes for very high incomes, should be at worst macroeconomically neutral while removing the worst and most conspicuous offenses to fairness and equality.

6. Concluding remarks

Concern about inequality has returned to the agenda in the last few years. The successful reception of Piketty's Capital in the Twenty-First Century and the choice of Blundell (2016) to devote the annual Coase Lecture to its alleviation bear testimony to this fact. So does the contribution of Pickett and Wilkinson (2010), which focuses on the costs to the social fabric of growing inequality. This paper advances a hypothesis regarding people's tastes that, if true, provides policymakers with the ability to mitigate the effects of rising inequality without harming effort and growth. The hypothesis propounds that although low-income earners need their resources for subsistence and assign paramount importance to their absolute level, as income rises, the focus shifts to securing social standing, and this, insofar as it is related to income and wealth, is associated with relative resources and not with their absolute level. As a result, if incomes and assets at very high billionaire levels are squeezed without distorting these taxpayers' relative positions, the affected individuals will be no worse off and will continue to go about their economic activities unaffected. In particular, exertion and economic contributions to income and growth should stay unchanged. Thus, proportional taxes on billionaires and other extremely high earners should not alter their chosen effort level and growth should be impervious to such steps.

Bagchi and Svejnar (2014a, 2014b), showing that most billionaires, if they affect growth at all, do so detrimentally, support the selection of this class of individuals for special tax treatment. Such taxes should be simple, namely, proportional, and should start at very high levels of income or wealth. The extra revenue they produce should be welcome, but this should be a secondary consideration because their aim is to reduce the weight of those who create the greatest affront to feelings of justice and fairness.

It should be remembered that the main damage caused by the growing income disparities is social and political. The present widespread sense of alienation and the shift of electorates in the West to anti-globalization, hatred of all supranational

institutions, and xenophobia is largely rooted in these disparities. They fuel anti-establishment feelings predicated on the belief that the leadership is corrupt and self-enriching due to its proximity to the commanding heights.

There is also direct political damage: the very fact that there exist individuals who can sway political decisions on their own or even almost "buy" the leadership, even that of a great Western country, subverts what is understood by democracy. This, I believe, is a consideration that should receive some weight in our thoughts about inequality.

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