Economic Modelling 31 (2013) 214–222

Contents lists available at SciVerse ScienceDirect

Economic Modelling

journal homepage: www.elsevier.com/locate/ecmod

The political economy of income comparisons and economic growth

Azam Chaudhry [a,*], Phillip Garner [b]

[a] Lahore School of Economics, Intersection Main Boulevard Phase VI DHA and Burki Road, Burki, Lahore, 53200, Pakistan
[b] Coe College, 1220 First Avenue NE, Cedar Rapids, IA, 52402, USA

ARTICLE INFO

Article history:
Accepted 3 November 2012

JEL classification:
010
015
P16

Keywords:
Inequality
Income comparisons
Political economy
Growth

ABSTRACT

The literature on income inequality has provided various explanations as to how income inequality can affect growth, with the emphasis on ideas such as investments in human capital, issues of occupational choice, or the redistributive policies of governments. Inequality not only has a direct effect on the distribution of consumption in an economy, but it also has a powerful effect on people's subjective sense of well being. This paper takes a novel approach by focusing on the way in which a government's choice of economic policy can be influenced by how individuals perceive themselves relative to other individuals, both within the country and in foreign countries. The chosen policy affects economic growth, with the assumption being that policies that promote growth also tend to result in more switching of individuals between income groups. We show that the government's optimal policy depends on the importance of both inside country and outside country income comparisons, the fraction of national income earned by the different income groups, the potential magnitude of economic growth, the probability of switching between income groups in the presence of growth, and the relative importance of the various income groups. The model predicts that a greater degree of inside country income comparison is bad for growth whereas more outside country comparison is good for growth.

1. Introduction

There is an extensive theoretical literature on inequality and growth examining both as to how inequality affects capital accumulation and how redistribution can influence growth. There is also a growing literature documenting the fact that a person's subjective sense of well-being is influenced not only by their own income/consumption but also by the income/consumption of others around them. More recently, work has been done exploring on how these ‘income externalities’ can affect the path of capital accumulation and hence economic growth. Our contribution is to focus on how inequality and the presence of income comparisons across individuals affect the political economy of growth, namely, a government's choice of economic policy. We do this by presenting a simple model that captures both ‘income externalities’ and government choice of an economic policy that influences growth and mobility among income groups.

The model consists of the following elements: there are two income groups within the country, Rich and Poor, and two periods in the model. There is also a foreign country that both Rich and Poor compare themselves with in terms of income. The utility of each individual is a function of his own income, his income relative to the other domestic group, and his income relative to foreign income. The government chooses an economic policy that can have greater or less status quo bias. We interpret status quo bias as having two effects: first, the more status bias there is, the less likely it is that an individual will switch between income groups, second, the more status quo bias there is, the lower will be economic growth. It is assumed that growth is distributionally neutral. In the first period government chooses a policy for the second period that maximizes a weighted sum of the expected utility of the Rich and the Poor, with more weight put on the Rich. In the second period individuals switch between income groups and growth is realized.

For Rich individuals there is a trade-off between pursuing policies which promote growth and retaining their status as Rich. Higher growth means higher utility both from income for its own sake and also in comparison to foreign income. Since growth does not affect the distribution of income, it has no effect on relative income within the country. The effect of the within country income comparison for the Rich is to make them less willing to choose growth and risk switching groups. If they do switch there is the additional negative impact of being Poor and comparing income with the Rich. The policy chosen by the government will depend on the importance of both inside country and outside country income comparisons, the fraction of national income earned by the different income groups, the potential magnitude of economic growth, the probability of switching between income groups in the presence of growth, and the relative importance (to the government) of the various income groups. The model predicts that a greater degree of inside country income comparison is bad for growth whereas more outside country comparison is good for growth. Two extensions of the model are also discussed. One examines modifications to the preference structure in order for the level of foreign income to affect the policy chosen by the

* Corresponding author.
E-mail addresses: Azam@Lahoreschool.edu.pk (A. Chaudhry), Pgarner@coe.edu (P. Garner).

0264-9993/$ – see front matter © 2012 Elsevier B.V. All rights reserved.
http://dx.doi.org/10.1016/j.econmod.2012.11.001

government. The other extension examines the optimal policy choice if the goal is to maximize long-run welfare of both Rich and Poor.

We conclude this section by reviewing the relevant literature. We begin with a brief review of the theoretical literature on inequality and economic growth, then look at the empirical evidence on the importance of income comparisons between individuals and discuss previous growth models that have this element. We also present some historical examples as to how income comparisons within and between countries have affected long-run economic growth. Section 2 presents the model and solves the government's policy problem. Section 3 examines how the various parameters of the model affect the choice of policy. Section 4 discusses extensions to the basic model. Section 5 concludes.

1.1. Research on economic growth, inequality and redistribution

The theoretical literature on income inequality and growth has a long history and is divided into many categories.[1] Though any description of the literature will tend to omit key contributions, one can divide the recent work done on the subject into two distinct categories: theories that analyze the effect on growth of capital market imperfections and theories that analyze inequality and the redistributive policies of governments.

The first set of models looking at inequality and growth emphasizes the role of capital market imperfections. A seminal research by Galor and Zeira (1993), Galor and Tsiddon (1997), Banerjee and Newman (1993) and Aghion and Bolton (1997) shows how a fixed cost in individual investment prevents individuals below a particular income level from taking advantage of investment opportunities in the presence of credit constraints. Increased equality in the distribution of income increases capital accumulation and growth by relaxing the credit constraints. Much of the work that followed on these papers relied heavily on the basic ideas introduced by this strand of research.

The second set of models look at political economy models of redistribution and income inequality. Influential papers by Bertola (1993), Alesina and Rodrik (1994), Persson and Tabellini (1994, 1995) present models in which the increased inequality due to the reduction in the income of the median voter, or pivotal middle class relative to the national average, leads to pressure for redistribution. The pressure for redistribution discourages investment which affects growth. Perotti (1993), Saint-Paul and Verdier (1993), Verdier and Ades (1993), Saint-Paul (1994) and Benabou (1995) combine the concepts of market incompleteness with the politics of redistribution.

The research on political institutions, inequality and growth is summarized in Drazen (2000) and has focused on three conceptual issues: (a) the role of property rights, (b) the susceptibility of governments to pressures by the poor (or other special interest groups) for redistribution, which affects investment and growth, and (c) the predatory nature of authoritarian leaders, who may pursue policies harmful to growth.

1.2. Research on income comparisons and subjective well being

The literature on income comparisons includes both theoretical and empirical analyses.

Becker's (1981) treatment of altruism and envy in 'Treatise on the Family' is one of the first formal analyses of income envy, but Layard's (2002) work is credited with bringing the issue into mainstream economic thought. Layard's discussion of the issue of envy (or 'rivalry' as he refers to it) was based on his 1980 paper on "Human Satisfaction and Public Policy," but was formalized in his 2002 paper on "Rethinking Public Economics: The Implications of Rivalry and Habit." In the latter paper, Layard lays out income rivalry as a prominent human experience and incorporates it into a model of public policy. Layard's analysis presents optimal economic decision making in the presence of rivalry and finds that the resulting distortions have to be offset by governmental tax policy.

In addition to Layard, Ng (1987) presents an interesting model in which relative income effects (in addition to absolute income effects) are incorporated into a model of optimal public expenditure. Ng finds that after incorporating relative income effects on individual welfare, the optimal level of expenditure on public goods may be higher than previous results. Mui (1995) incorporates envy into a standard economic choice framework, and finds that envy can lead to pre-innovation sabotage leading to the reduction in the incidence of innovation. Carrol et al. (1997) and Alverez-Cuadrado et al. (2004) incorporate the comparison of incomes into models of economic growth. The effects of income comparisons through growth in these models are through capital accumulation. This paper takes another approach by looking at how income comparisons affect the incentives that governments may have to discourage or encourage economic growth.

The empirical evidence looks at the role of envy and relative income in the level of utility, and decision making processes, of individuals. Solnick and Hemenway (1998) present a survey evidence in which half of the survey respondents preferred to have 50% less real income but high relative income. Clark and Oswald (1996) present an econometric analysis in which workers' reported satisfaction levels are shown to be negatively related, in ordered probits, to their comparison earnings levels. As they conclude, "Despite what economics textbooks say, comparisons in the utility function seem to matter," (page 375). Clark et al. (2008) show that empirical findings on average happiness are consistent with the presence of relative income in the utility function while Clark et al. (2009) present a micro level analysis that shows that reported levels of household satisfaction in Denmark depend on the income of neighbors and the relative income ranking of their neighborhood. Alpizar et al. (2001) conducted their own experiment and found a similar econometric result: "On average, both relative and absolute income, as well as consumption, matter for individual utility, or well-being," (page 19). Neumark and Postlewaite (1998) develop a model which incorporates relative income concerns into women's utility functions, and present empirical evidence on how women's decisions to seek paid employment depend on the employment or incomes of other women with whom relative income comparisons might be important, including sisters and sisters-in-law. Easterlin (1995) finds that although those with relatively higher incomes report being happier, raising the incomes of all does not increase the happiness of all. Luttmer (2005), by using a panel data, finds a negative effect of increases in neighbors' income on self reported happiness and that there is "suggestive evidence" that this is "most likely caused by interpersonal preferences."

A fascinating cross-country study of the importance of envy was conducted by Beckman et al. (2002). In estimating the effects of envy and malice in economic decision making, they find that these factors are powerful motivations with strong differential impacts across countries. In particular they find:

> "In multinomial logit estimations, envy and malice, measured by opposition to gains accruing to those in a higher or lower income position than the voter, are highly significant across all specifications and are significantly different from each other. In contrast, measures of overall inequality and efficiency are not. This strongly suggests that studies that assuming away envy and malice neglect significant factors motivating economic decisions involving more than one person," (page 352).

The novel aspect of this empirical study is the fact that the authors looked at evidence from the US, Russia, Taiwan and the People's Republic of China, and found that the influence of envy varies across countries and that, "Envy and malice may represent major obstacles to market reform in transition economies," (page 366).

[1] For a detailed account on the literature on inequality and growth, see Benabou's (1996), Inequality and Growth, in B.S. Bernanke and J. Rotemberg, eds., NBER Macroeconomics Annual 11, MIT Press.