

Chen, Xi

Article

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Relative deprivation and individual well-being

Low status and a feeling of relative deprivation are detrimental to health and happiness

Keywords: relative status, relative poverty, relative deprivation, health, happiness, well-being

ELEVATOR PITCH

People who are unable to maintain the same standard of living as others around them experience a sense of relative deprivation that has been shown to reduce feelings of well-being. Relative deprivation reflects conditions of worsening relative poverty despite striking reductions in absolute poverty. The effects of relative deprivation explain why average happiness has been stagnant over time despite sharp rises in income. Consumption taxes on status-seeking spending, along with official and traditional sanctions on excess consumption and redistributive policies may lessen the negative impact of relative deprivation on well-being.

KEY FINDINGS

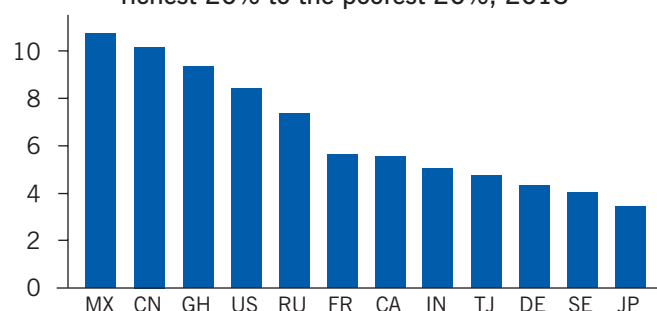
Pros

- + Strong evidence finds a negative impact of relative deprivation on both objective and subjective dimensions of well-being.
- + Relative deprivation offers a plausible explanation for the paradox that average happiness has remained constant or even fallen despite sharp rises in income.
- + Psychological services and redistributive policies tailored to people experiencing relative deprivation may improve well-being.
- + Visibility-based consumption taxes and community sanctions may promote well-being by curbing status-seeking spending driven by relative deprivation.
- + Relative deprivation reflects relative poverty and complements measures of inequality.

Cons

- Psychological services, community-based activities, and redistributive policies may draw attention to a person's low status and increase relative deprivation.
- Studies of relative deprivation assume either external comparisons with richer counterparts or internal comparisons with a person's past or future self without formally testing the importance of those reference groups.
- The true reference group is rarely known, which likely biases measures of relative deprivation.
- Few results of relative deprivation studies are directly comparable across studies, and the results are not generalizable to a larger population.

Relative deprivation: The ratio of average income of the richest 20% to the poorest 20%, 2013



Source: United Nations Development Programme data. Online at: <http://hdr.undp.org/en/content/income-quintile-ratio>

AUTHOR'S MAIN MESSAGE

A large body of empirical evidence finds that low socio-economic status and resulting feelings of relative deprivation diminish people's well-being, indicated by lower happiness and health. When people respond to this condition by competing for higher status, they often divert resources from meeting basic needs to inefficient spending on status-seeking goods. The negative impact of relative deprivation on well-being can be reduced by curbing such spending among the poor. Possible methods include consumption taxes on status-marking goods, community sanctions, and redistributive policies that may reduce such spending.

MOTIVATION

The quest for social status has been widely documented over time and across cultures. Competing for higher status often diverts resources to inefficiently high status-motivated spending. Lower status and induced feelings of relative deprivation, especially in countries with high inequality and a rigid social hierarchy, may worsen the condition of poor people by motivating them to spend lavishly on goods that signal a higher status in society. Relative deprivation has been shown to diminish both subjective and objective well-being. Subjective well-being is based on achieving momentary well-being, happiness or general life satisfaction, while objective well-being is based on achieving basic needs and rights such as health status. These measures complement money as a measure of individual well-being, such as income per capita.

The number of studies that incorporate status into the theoretical framework to rationalize individual choices has been rising in recent decades. Relative deprivation measures have been used within an empirical framework to examine theories related to concern with status. Relative deprivation studies quantify the discontent people feel when they compare their socio-economic status, measured by income, consumption, or other indicators of perceived economic welfare, with that of their richer counterparts and realize that those others possess something that they do not have. For example, studies measure relative deprivation as the differences between the income of a lower status individual and the incomes of richer counterparts. Relative deprivation rises with the income of any higher income earner or with the number of higher income earners [1], [2].

These studies of relative deprivation help explain the puzzle that average happiness in much of the world has remained constant in recent decades despite sharp rises in income. They show that measured overall progress against poverty may be based solely on declining absolute poverty, while relative poverty is rising. Studying relative deprivation also enriches our understanding of inequality at the individual level.

In the past, evidence on relative deprivation has come mainly from developed countries. More recent research has extended the findings to developing countries.

DISCUSSION OF PROS AND CONS

Why should we care about relative deprivation?

Relative deprivation reflects conditions of worsening relative poverty despite remarkable reductions in absolute poverty in recent decades. Relative poverty, an important but often neglected policy target, is measured by the resources needed to maintain the social and economic lifestyle that is widely accepted by the society in which one lives, whereas absolute poverty is measured against a fixed standard of the income required to meet basic subsistence needs. While absolute poverty can be reduced by raising the income of the poor, reducing relative poverty requires egalitarian measures.

Relative deprivation is also a gauge of inequality, an important indicator of equitable growth at the individual level. Relative deprivation captures the fact that in an unequal society, people at the bottom feel worse across many dimensions than people at the top. Aggregating the relative deprivation of individuals yields the most common measure of inequality [2]. Relative deprivation measures are consistent with large bodies of scientific evidence in public health, psychology, animal science, and economics [3].

Compared with whom?

Relative deprivation may arise when people compare their socio-economic status with that of others at the same point in time (social comparison) or with their own past or future status. While the literature has made comparisons across both dimensions, it has been silent in formally testing the two. As an exception, evidence from 17 European countries suggests that comparison with others matters more than self-comparisons [1]. One's income today relative to one's income in the past has nonetheless shown its importance, as people tend to adapt quickly to a higher welfare status and derive less utility from the same level of welfare over time. However, the relative deprivation literature has focused on upward and downward asymmetries in social comparisons and argued that people prefer to make upward rather than downward social comparisons [4].

It is challenging to identify reference groups for social comparisons. First, psychological factors may influence an individual's choice of reference group, resulting in differences that are not easily captured in empirical studies. And the composition of reference groups can be quite different in different contexts. For instance, the reference group at the workplace is different from the reference group at home. Limited by specific data sets, few studies simultaneously consider all relevant reference groups, even though multiple reference groups may jointly determine well-being.

In addition, selecting reference groups is less straightforward in modern societies, where information flow is efficient and individuals may move frequently during their lifetime. People in a traditional society often interact in smaller and closer reference groups, as poor infrastructure slows information flow and the power of local norms strengthens reciprocity. Substantial ethnographic evidence on traditional societies documents that social interactions at the village level are more appropriate for studying relative deprivation than those at the city block, census tract, school, or classroom level. Recent empirical studies in China also suggest that villages are salient reference groups for rural residents, while relatives and classmates are salient reference groups for urban residents [5], [6]. A study that let people choose their own reference groups finds that two-thirds of rural residents in China identify fellow villagers as their main comparison group. Individual reference group choices, though well explored in migration decisions [4], are understudied in the happiness literature.

Relative deprivation and well-being: Potential pathways

There are several pathways through which relative deprivation may affect well-being. First, well-being is maximized when people live under conditions that mimic those under which humans evolved [3]. The earliest hunter-gatherer societies punished those who deviated from the customary practice of equal sharing of food, the most effective consumption-smoothing arrangement given the occasional killing of large animals and the inability to store meat. Therefore, our evolutionary history inclines us toward improved well-being when we live in conditions of greater equality and toward discontent when we live in conditions of inequality and relative deprivation [3]. Second, persistent relative deprivation undermines the protective role of the biochemical system of stress response against a wide range of human diseases, as shown by studies of British civil servants. Third, rank, rather than money itself, may determine power and access to (exclusive) material goods. For example, people of higher rank in communities with limited land for housing tend to live in houses with better views. Similarly, occupational status may determine the degree of control people have over others.

Studies of relative deprivation have examined its impacts on health and happiness, two important components of well-being. These are discussed below.

Evidence on health

Disparities in both income and health have increased in recent decades despite substantial gains in standards of living. Overwhelming evidence suggests negative impacts of relative deprivation on a wide range of health measures, such as life expectancy in developed countries (including Japan, the UK, the US, and countries in Eastern Europe); coronary heart disease and cancer in the UK; self-reported health status in China [5] and the US [7]; diet and exercise in the UK; mortality rates, health-related limitations, body mass index, and risky health behaviors in the US [3], [7]; psychosocial health in China [5]; and health-compromising behavior among people in the US [8] and psychosocial stress-induced injuries among non-human primates in the lab.

A 2014 study attempts to deal with concerns over the direction of the relationship between health behavior and relative deprivation using parents' education as a proxy for the relative deprivation of adolescents in the US. Results confirm a positive association between relative deprivation and alcohol consumption, drinking to intoxication, and smoking [8].

Relative deprivation may also have intergenerational health impacts. For example, the children of mothers in relatively deprived households in impoverished rural China (measured by the mother's long-term economic status relative to that of her richer peers), who are frequently exposed to the costly ceremonies held by fellow villagers, often suffer from malnutrition.

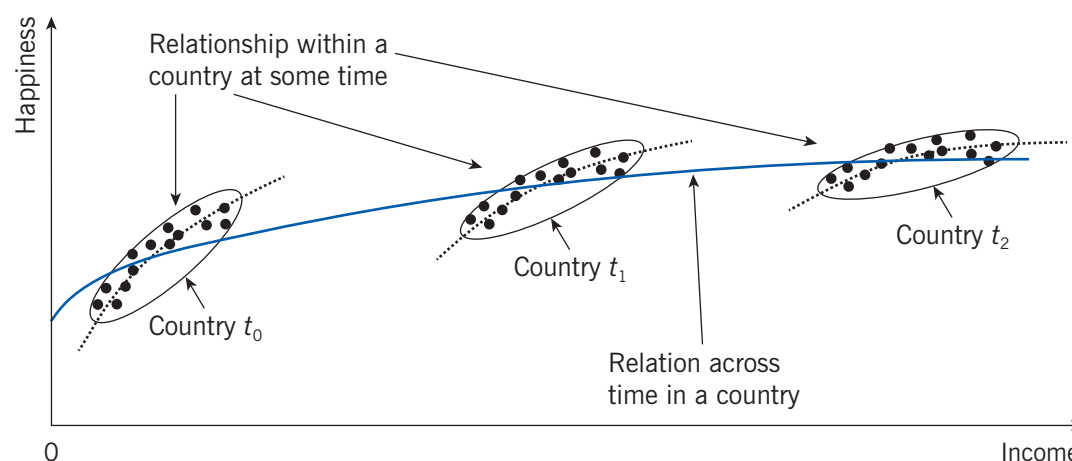
People who skip these events or who spend less than their richer counterparts lose face and risk becoming socially excluded. For that reason, many people at the bottom of the status and wealth distribution tend to attend no fewer ceremonies than their better-off peers and to give even more lavish gifts to signal a higher status. Thus, it is more burdensome for the poor to take part in these social occasions than for the rich. Because the poor often lack the necessary resources to finance these activities, they are forced to skimp on food consumption to compensate. Because the children of most poor people were exposed to the repercussions of their family's having spent more than it could afford on such ceremonies while the children were young (and even before they were born), the potential negative consequences can be large [9]. More empirical evidence could emerge after better data on ceremonies become available and once the issue of identifying appropriate reference groups can be resolved [6].

Evidence on happiness

The Easterlin paradox describes the observation that despite sharp rises in average income, average happiness has not increased; nonetheless, there are positive correlations between income and happiness. The paradox has been found to apply to a large set of developed countries, including Japan, the Republic of Korea, the US, France, Germany, Italy, the Netherlands, and the UK [4], and a large number of developing countries, including China [6], South Africa, most Eastern European countries, and most Latin American countries.

Among several competing explanations [10], relative deprivation provides a plausible explanation for the Easterlin paradox (Figure 1). Studies confirm the negative role of relative deprivation in many countries, such as China [5], Costa Rica, Germany [4], the Republic of Korea, and the UK [4]; in both urban and rural settings; for various groups of people [4]; and for both happiness and job and income satisfactions [1].

Figure 1. The Easterlin paradox



Note: In all three periods (t_0 , t_1 , t_2), higher individual income is associated with higher individual happiness (the dotted lines), but aggregate happiness does not rise along with aggregate income from t_0 to t_2 (the solid line).

Source: Clark, A. E., P. Frijters, and M. Shields. "Relative income, happiness and utility: An explanation for the Easterlin paradox and other puzzles." *Journal of Economic Literature* 46:1 (2008): 95–144 [4].

Moreover, the importance of relative deprivation and absolute income in explaining happiness is in stark contrast in different contexts. Though higher absolute income may enhance happiness, multi-country studies suggest that relative deprivation (due to lower relative income) becomes more important than absolute income in explaining happiness in richer countries or beyond the minimum absolute income level needed for subsistence. For example, relative deprivation seems to be more important in China, Germany [1], [11], and many other countries included in the World Value Survey (a global survey of people's values and beliefs and how they change over time), while absolute income seems more important in some post-transition European countries and central and western Asian countries [1].

Finally, while most studies find that higher relative deprivation (as a result of lower relative income) makes people less happy, evidence for some countries, such as many in Eastern Europe, suggests that higher relative deprivation may increase happiness. The likely explanation is that peers' income serves as a basis for social comparisons in contexts with stable income-generating opportunities, whereas in volatile economic environments, as in Eastern Europe, it provides a positive source of information that shapes future expectations.

Policy implications for relative deprivation

Psychological services and community-based activities

Since a person's psychological state reinforces the link between relative deprivation and poor health, a direct remedy might be to alleviate feelings of relative deprivation through psychological support services. Evidence for China and the US indicates that psychological services and community-based activities can be directed to integrate people suffering from relative deprivation into society [5], [8]. US evidence on adolescents points to educational campaigns and school-based programs to promote the social integration of low-status students and their families [8]. Such policies must be carefully implemented, however, to avoid aggravating relative deprivation by drawing wider attention to participants' low socio-economic status.

Visibility-based consumption taxes and sanctions

Social status is often associated with large financial and non-financial benefits. Top earners spend lavishly on conspicuous consumption. This kind of spending shifts the frame of reference for those below them in social status, inducing them to mimic high spenders and signal fictitious wealth and social status through large positional spending. Participating in reciprocal gift-giving ceremonies with fellow villagers has been regarded as a social norm in many parts of the world for thousands of years. Surprisingly, poor villagers in China usually spend no less money on gifts per event and attend no fewer ceremonial occasions than their richer counterparts [9]. Similarly, the poor prefer to consume designer-label goods in Bolivia, spend lavishly on dowries and wedding banquets in India, build ostentatious tombs and bid up bride prices in China, and spend several years' income on funerals in Ghana and South Africa.

Large positional spending by poor people often squeezes out spending on basic consumption and imposes costs on other poor people by triggering more positional spending on their part. Rural residents in India spend 15% of their income, on average, on gift giving but only 2–3% on children's education. The poor in Ghana and South Africa spend lavishly on extravagant funerals, buying ornate costumes and eating all the meat for the year while skimping on food consumption the rest of the time. In the Republic of Congo, fathers spend their money on alcohol and cigarettes rather than on primary school fees or anti-malaria bed nets for their children. The poor in China, feeling compelled to participate in frequent ceremonial events, shift resources from already inadequate food intake to gift-giving, subjecting unborn children and young children to chronic malnutrition [9].

Given the clear evidence that positional spending among poor people squeezes their basic consumption, threatens their subsistence, and brings long-term unintended consequences to future generations, policies are needed that can discourage positional consumption among the extremely poor without discriminating against the poor.

Price-related policies and traditional sanctions might be the least intrusive measures. Positional consumption can be taxed in proportion to how much its value depends on relative consumption. The poorest segment of the population is expected to be the most responsive to such a tax. For example, in the US, nationwide telephone surveys have been used to gauge the visibility of a long list of commodities; such surveys could be implemented in other cultures and countries at low cost [12]. Visibility-based consumption taxes, similar to a luxury tax, could be used to curb status-seeking spending, thereby correcting the distortion imposed by the negative externalities of positional spending. Such taxes also raise revenue that can be used to finance the provision of public goods that can reduce inequality and improve well-being.

Positional spending among the poor can also be discouraged through regulations and grass-roots sanctions. For example, the Chinese government recently cracked down on excessive

Positional spending and visibility-based consumption tax

Positional spending is socially observable spending that is motivated by status concerns. People are often concerned about consumption of these visible status goods (such as a lavish gift, a mansion, or a luxury car) relative to others in the reference group.

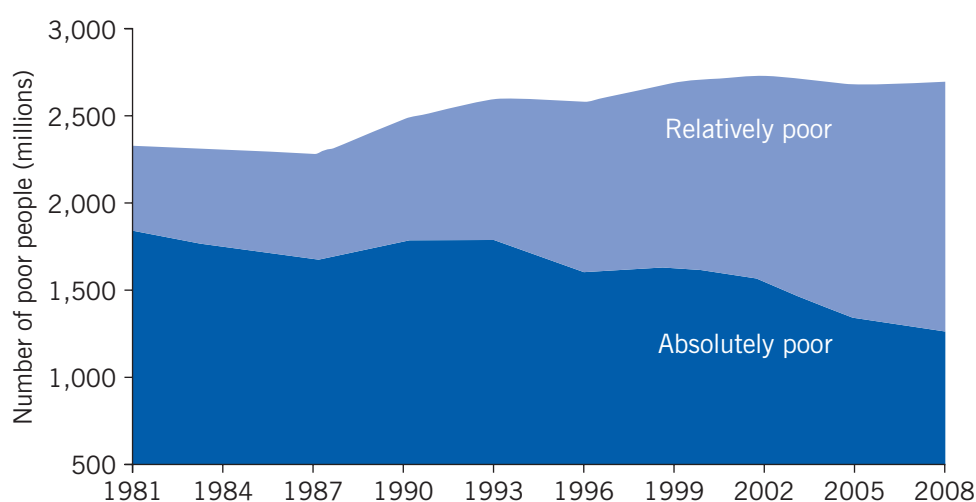
Visibility-based consumption tax refers to a type of tax whose rate is in proportion to how “visible” a commodity is. For example, the purchase of a luxury car would be subject to a higher rate of visibility-based tax than the purchase of an ordinary, less status-signaling car.

official banqueting and gift giving. Sales of luxury cigarettes and alcohol fell substantially thereafter. In impoverished rural communities in central China, this regulation targets village leaders who are often the most active in hosting lavish ceremonies and presenting gifts. The ban on lavish ceremonies and large alcohol and cigarette purchases by officials spilled over to ordinary rural residents, who are punished by fellow villagers when they violate the regulations banning such activities for officials. In Tajikistan, where more than half the population lives in poverty, a law banning elaborate parties has benefited both hosts, who can now devote scarce resources to more productive investments, and guests, who gain from being spared the deeper impoverishment resulting from having to contribute to lavish events. These policy instruments may be less feasible in developed countries, where freedom of choice is highly valued and cultural norms differ.

Policies promoting growth and redistribution: Weighing absolute gains and relative losses

Countries often place economic growth above redistribution as a development priority. However, the strong evidence of relative deprivation in these countries casts serious doubt on the welfare justifications of current growth-promoting policies [1], [11], [12]. For example, when economic growth leads to an unbalanced increase in individual income, the worsening relative deprivation among the poor will offset some of the welfare gains to them that result from higher absolute income. Poverty alleviation has brought about a change in perspective on what it means to be successful—reduced absolute poverty, reduced relative poverty, or both. People in relative poverty lack adequate resources to maintain the average standard of living in their society, including the ability to afford socially desirable goods and engage in social activities, though they have the resources to sustain their lives. Although the number of people who are absolutely poor has declined significantly in recent decades, the number of people who are relatively poor has risen (Figure 2) [13]. Any evaluation of economic growth and anti-poverty policies should consider both relative poverty and absolute poverty.

Figure 2. As the number of absolutely poor people in the world has declined, the number of relatively poor people has risen, 1981–2008



Note: Absolutely poor is defined as an income of less than \$1.25 a day; relatively poor refers to people with incomes below a socially acceptable level, which is often higher than the absolute poverty line. Data cover 100 countries.

Source: Ravallion, M., and S. Chen. "Weakly relative poverty." *Review of Economics and Statistics* 93:4 (2011): 1251–1261 [13].

Redistributive policies—such as making taxes more progressive, subsidizing basic education, and providing universal basic health services—that seek to narrow gaps in income, wealth, and opportunity may reduce relative deprivation and therefore relieve its negative impact on well-being. However, policies directed toward a particular group defined as “unequal” may increase relative deprivation for nearby groups that are in close social contact with the group being assisted. This intensified feeling of relative deprivation has been found to apply mostly for rich people in countries as poor as Malawi and throughout much of the developed world.

LIMITATIONS AND GAPS

There are still knowledge gaps about the relationship between relative deprivation and individual well-being. Few results are directly comparable across studies because of differences in model specification, choice of relative deprivation indicator, reference group definition, estimator chosen, type of data, etc. Individuals often choose to interact with people who are similar to themselves, which affects observable relative deprivation and individual well-being and potentially makes study findings less generalizable [8]. Related to this, social norms may differentially influence how relative deprivation affects individual well-being; more research is needed to understand this relationship. For example, informal arrangements for sharing economic gains with friends and neighbors in need may lessen relative deprivation; such personal transfers might be consistent with evidence from some poor countries that relative deprivation is not negatively correlated with happiness or life satisfaction.

In addition, adaptation and changing aspirations may mediate the impact of relative deprivation on individual well-being. For example, people with higher relative deprivation may adapt better to low status and form higher expectations about future status based on higher reference incomes. Ignoring such psychological factors may underestimate the negative effect of relative deprivation.

Most studies simply impose reference groups rather than asking individuals who their reference group is. These constructed reference groups may pick up effects other than social comparison. For example, average income by geographic area might also measure local public goods provision, which confounds the negative impact of relative deprivation on well-being [3], [4]. More fundamentally, if relative deprivation originates from gaps in social ranks along many attributes, such as income, wealth, title, and appearance, it might be difficult or even impossible to effectively address relative deprivation except by replacing one individual attribute with another as a key factor of relative deprivation. This deserves in-depth investigation.

SUMMARY AND POLICY ADVICE

A large empirical evidence base for most countries suggests that low socio-economic status and resulting feelings of relative deprivation lower both objective and subjective well-being, as measured by indicators such as health and happiness. And while absolute poverty has been declining in most countries, relative deprivation and relative poverty have been rising.

Several policy instruments have the potential to reduce relative deprivation and thus to relieve its wide range of negative impacts. While psychological services, community-based activities, and redistributive policies may help reduce relative deprivation, they risk drawing embarrassing attention to recipients' low status and thereby aggravating relative deprivation. Better options may be a visibility-based consumption tax, which operates similar to a luxury tax, and

traditional community sanctions, which are less likely to draw undue attention to the people they are designed to help. Studies for China and the US recommend tailoring psychological services and community-based activities to reduce relative deprivation and promote social integration for disadvantaged individuals [5], [8].

Policies that redistribute resources, such as income tax, universal basic education, and universal basic health services, may lessen relative deprivation. However, initiatives aimed at cutting relative deprivation within an area or a group may worsen relative deprivation in nearby areas or groups with which there are close interactions. To minimize this risk, policymakers should be aware of the boundaries of intensive social interactions that matter for relative deprivation. Redistributive policies benefiting one area or a group should not be at the cost of others.

Impoverished countries may consider implementing a visibility-based consumption tax to cut positional spending among the poor. Using telephone surveys to identify relevant visibility measures has proved reliable and inexpensive in the US and should be readily applicable to many other countries. Grass-roots groups in China and Tajikistan have reacted positively to regulations mandating cuts in positional spending among local officials. However, policymakers in developed countries, where freedom of choice is highly valued, may find such measures less feasible, especially as clear evidence is lacking that positional spending threatens basic well-being in rich contexts.

Finally, relative deprivation provides an important policy target for poverty alleviation and an indicator for predicting the risk of social unrest. Officials may want to monitor the impacts of anti-poverty efforts using a relative poverty line that rises with per capita income or consumption. Relative poverty lines for 100 countries released by the World Bank provide such a reference [13]. In addition, an intriguing body of empirical studies suggests that relative deprivation, as individuals compare themselves to others or experience unfulfilled expectations, is a potential source of social unrest that can lead to political violence. Monitoring relative deprivation may help governments identify such risk at an early stage and take effective measures to reduce tensions. Governments could define a threshold level of relative deprivation that triggers automatic emergency measures.

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Competing interests

The IZA World of Labor project is committed to the IZA *Guiding Principles of Research Integrity*. The author declares to have observed these principles.

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REFERENCES

Further reading

Frank, R. H. *The Darwin Economy: Liberty, Competition, and the Common Good*. Princeton, NJ: Princeton University Press, 2011.

Wildman, J. “Modeling health, income and income inequality: The impact of income inequality on health and health inequality.” *Journal of Health Economics* 22:4 (2003): 521–538.

Key references

- [1] Verme, P. *Happiness, Deprivation, and the Alter Ego*. ECINEQ, Society for the Study of Economic Inequality Working Paper No. 155, 2010.
- [2] Yitzhaki, S. “Relative deprivation and the Gini coefficient.” *Quarterly Journal of Economics* 93:2 (1979): 321–324.
- [3] Deaton, A. *Relative Deprivation, Inequality, and Mortality*. NBER Working Paper No. 8099, 2001.
- [4] Clark, A. E., P. Frijters, and M. Shields. “Relative income, happiness and utility: An explanation for the Easterlin paradox and other puzzles.” *Journal of Economic Literature* 46:1 (2008): 95–144.
- [5] Mangyo, E., and A. Park. “Relative deprivation and health: Which reference groups matter?” *Journal of Human Resources* 46:3 (2011): 459–481.
- [6] Chen, X. “Relative deprivation in China.” In: Fan, S., R. Kanbur, S. J. Wei, and X. Zhang (eds). *The Oxford Companion to the Economics of China*. Oxford: Oxford University Press, 2014; pp. 406–410.
- [7] Eibner, C., and W. Evans. “Relative deprivation, poor health habits, and mortality.” *Journal of Human Resources* 40:3 (2005): 591–620.
- [8] Balsa, A., M. French, and T. Regan. “Relative deprivation and risky behaviors.” *Journal of Human Resources* 49:2 (2014): 446–471.
- [9] Chen, X., and X. Zhang. *Costly Posturing: Relative Status, Ceremonies and Early Child Development in China*. UNU-WIDER Working Paper No. 201270, 2012.
- [10] Graham, C., S. Chattopadhyay, and M. Picon. “The Easterlin and other paradoxes: Why both sides of the debate may be correct.” In: Diener, E., J. F. Helliwell, and D. Kahneman (eds). *International Differences in Well-Being (Positive Psychology)*. Oxford: Oxford University Press, 2010; pp. 247–290.
- [11] Ferrer-i-Carbonell, A. “Income and well-being: An empirical analysis of the comparison income effect.” *Journal of Public Economics* 89:5–6 (2005): 997–1019.
- [12] Heffetz, O. “A test of conspicuous consumption: Visibility and income elasticities.” *Review of Economics and Statistics* 93:4 (2011): 1101–1117.
- [13] Ravallion, M., and S. Chen. “Weakly relative poverty.” *Review of Economics and Statistics* 93:4 (2011): 1251–1261.

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