ing factor between deprivation and rebellion as the expectation of success. "It is when the chains have been loosened somewhat, so that they can be cast off without a high probability of losing life, that people are put in a condition of rebelliousness" (Davies 1971, pp. 135–136).

Subsequently theorists such as Doug McAdam and Sidney Tarrow have emphasized the mediating role of "political opportunity structures" in determining when relative deprivation and mobilization actually will lead to actions such as rebellions (McAdam, Tarrow, and Tilly 2001). This work clearly echoes Tocqueville.

For more than three decades Ted Robert Gurr integrated these and other emergent findings of the literature into his repeatedly revised and expanded general theory of ethnocultural rebellion and political action. His primary causal variable continues to be relative deprivation, although he defines it broadly like Davies as the difference between perceived entitlement and actual welfare, so that even relatively privileged groups may be motivated to rebel by perceived disadvantage. Gurr (2000) says three mediating variables determine whether deprivation actually will lead a group to take action—salience of ethnocultural identity, group capacity for mobilization (based partly on geography), and political opportunities for success. A domestic political variable—whether state institutions and resources favor repression or accommodation of group demands—determines whether ethnopolitical action will take the form of peaceful protest or violent rebellion. Prominent economists and political scientists, including Paul Collier, Anke Hoeffler, David Laitin, and Jim Fearon, have disputed the primary role of relative deprivation in motivating rebellion, which they say is driven less by grievance than by greed.

SEE ALSO *Aristotle; Coup d'Etat; Ethnic Conflict; Ethnocentrism; Marx, Karl; Poverty; Resistance; Revolution; Social Movements; Tocqueville, Alexis de; Wages*

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Alan J. Kuperman

RELATIVE INCOME HYPOTHESIS

Relative income hypothesis states that the satisfaction (or utility) an individual derives from a given consumption level depends on its relative magnitude in the society (e.g., relative to the average consumption) rather than its absolute level. It is based on a postulate that has long been acknowledged by psychologists and sociologists, namely that individuals care about status. In economics, relative income hypothesis is attributed to James Duesenberry, who investigated the implications of this idea for consumption behavior in his 1949 book titled *Income, Saving and the Theory of Consumer Behavior*.

At the time when Duesenberry wrote his book the dominant theory of consumption was the one developed by the English economist John Maynard Keynes, which was based on the hypothesis that individuals consume a decreasing, and save an increasing, percentage of their income as their income increases. This was indeed the pattern observed in cross-sectional consumption data: At a given point in time the rich in the population saved a higher fraction of their income than the poor did. However, Keynesian theory was contradicted by another empirical regularity: Aggregate saving rate did not grow over time as aggregate income grew. Duesenberry argued that relative income hypothesis could account for both the cross-sectional and time series evidence.

Duesenberry claimed that an individual's utility index depended on the ratio of his or her consumption to a weighted average of the consumption of the others. From this he drew two conclusions: (1) aggregate saving rate is independent of aggregate income, which is consistent with the time series evidence; and (2) the propensity to save of an individual is an increasing function of his or her percentile position in the income distribution, which is consistent with the cross-sectional evidence.

Despite its intuitive and empirical appeal Duesenberry's theory has not found wide acceptance and has been dominated by the life-cycle/permanent-income hypothesis of Franco Modigliani and Richard Brumberg (published in 1954) and Milton Friedman (1957). These closely related theories implied that consumption is an increasing function of the expected lifetime resources of an individual and could account for both the cross-sectional and time series evidence previously mentioned. However, starting with the 1970s, inability of these theories to explain some other puzzling empirical observations as well as the increasing evidence that people indeed seem to care about relative income have generated renewed interest in relative income hypothesis.

The first piece of evidence was presented in 1974 by Richard Easterlin, who found that self-reported happiness of individuals (i.e., subjective well-being) varies directly

with income at a given point in time but average well-being tends to be highly stable over time despite tremendous income growth. Easterlin argued that these patterns are consistent with the claim that an individual's well-being depends mostly on relative income rather than absolute income. Subsequent research, such as that published by Andrew Oswald in 1997, has accumulated abundant evidence in support of this claim.

Relative income hypothesis has also found some corroboration from indirect macroeconomic evidence. One of these is the observation that higher growth rates lead to higher saving rates, which is inconsistent with the life-cycle/permanent-income theory since the lifetime resources of an individual increases as growth rate increases. The work of Christopher Carroll, Jody Overland, and David N. Weil explains this observation with a growth model in which preferences depend negatively on the past consumption of the individual or on the past average consumption in the economy that is under the relative income hypothesis.

Another empirical observation that has been problematic for the life-cycle/permanent-income theory is the equity premium puzzle, which states that the observed difference between the return on equity and the return on riskless assets is too large to be explained by a plausible specification of the theory. Introducing past average consumption into the preferences accounts for this observation much better.

Relative income hypothesis has other important economic implications. Perhaps the most obvious implication is that consumption creates negative externalities in the society, which are not taken into account in individual decision-making. If individuals consume, and therefore work, to increase their status, then they will tend to work too much relative to the socially optimal level and hence income taxation could improve the social welfare.

Relative income hypothesis is a special case of negatively interdependent preferences according to which individuals care about both their absolute and relative material payoffs. In 2000 Levent Koçkesen, Efe Ok, and Rajiv Sethi showed that negatively interdependent preferences yield a higher material payoff than do selfish preferences in many strategic environments, which implies that evolution will tend to favor the emergence of negatively interdependent preferences. This could be regarded as one explanation for the empirical support behind relative income hypothesis.

SEE ALSO *Absolute Income Hypothesis; Consumption; Life-Cycle Hypothesis; Microfoundations; Modigliani-Miller Theorems; Permanent Income Hypothesis*

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RELATIVE SURPLUS VALUE

Relative surplus value is a concept introduced by Karl Marx in chapter 12 of the first volume of his book *Capital* (1867). One of the key objectives of this book was to explain the origins of capitalist profit. Marx argued that profits could not arise simply from trading between commodity owners because such trade was what von Neumann (1944) would later call a zero sum game. Instead, the source of profit had to be sought outside the sphere of circulation in the process of capitalist production. Here, labor power that had been purchased by the capitalist was set to work to make things. The amount of value created by the laborers would be proportional to the number of hours worked whereas the sum advanced by the capitalist to purchase labor power would be proportional to the value of that labor power itself as a commod-