# Stratification in Hard Times

#### MARKUS GANGL

## Abstract

This essay reviews current research on the relationship between economic inequality and social stratification. Stratification, that is, the intergenerational reproduction of the distribution of incomes and socioeconomic advantage, is likely to be related to the level of economic inequality because parental incomes and wealth are important resources in families' investment in children's earnings capacity. The relationship is likely to be moderated, however, by the fact that monetary resources are not the sole family resource of importance, and by counterbalancing effects of progressive policy, notably as far as educational policy is concerned. Also, the relationship between inequality and stratification is likely to exhibit considerable time lags, and empirical analyses of contemporaneous correlations are unlikely to be informative in consequence. Owing to the substantial data requirements, few convincing empirical studies on the inequality-stratification relationship are available at present. More reliable evidence is available from studies of the relationship between inequality and educational attainment, arguably the key interim process in stratification. Here, empirical results suggest rising inequality to cause rising inequality of educational achievement, notably because well-off families are able to increase children's attainment in the face of rising economic incentives, whereas lower income families are less able to do so. The essay concludes by suggesting key areas of future research, likely to be spurred by the increasing sophistication of analytical models and the increasing quality of available intergenerational data on earnings, incomes and socioeconomic standing.

## INTRODUCTION

Social stratification refers to the degree of intergenerational reproduction in the distribution of welfare, status, and socioeconomic advantage. Focusing on the transmission of status across generations, the study of social stratification is complementary to more conventional analysis of socioeconomic inequality. The distribution of income, broadly conceived, is well known to exhibit considerable inequality in any modern, if not indeed any human society, yet the character of society will fundamentally depend on whether incumbency of economically advantageous locations

is mostly handed down from one generation to the next, or is mostly the result of interindividual differences in scarce ability, talent, and effort. While the level of income inequality might be equally pronounced within the present generation in either case, the former society reflects a closed system of persistent advantage and disadvantage, whereas the latter society is consistent with meritocracy, equal opportunity, and a considerable degree of intergenerational openness in the distribution of income and welfare.

Although conceptually distinct aspects of the income distribution, the causal relationship between inequality and stratification constitutes one of the most fundamental questions in the social sciences, and continues to be a perennial concern in egalitarian philosophy and practical politics. Intuitively, it seems natural to assume that greater inequality of financial resources will be conducive to the social reproduction of welfare across generations, and the expectation of some positive correlation between inequality and stratification is a standard feature of current models of intergenerational mobility and attainment. However, as to be reviewed in more detail later, the theoretical case for a positive correlation between inequality and stratification may in fact not be fully compelling upon closer inspection. Furthermore, robust empirical evidence on the inequality-stratification relationship turns out to be hard to come by because of near-prohibitive demands on the data, ideally required to span long observation windows to adequately capture intergenerational mobility at the household level and to sample historical variation in family behavior under varying macroeconomic conditions.

Nevertheless, it is easy to predict rising academic and public interest in the relationship between inequality and stratification: Income inequality has been decidedly increasing in affluent countries over the past decades, starting in the mid-1970s in the United States and followed by many European countries since the 1980s, the transition from socialism led to soaring inequality in Eastern Europe during the 1990s, and sharply rising levels of income inequality have also become evident in many emerging economies more recently, including China and India. The severe and worldwide financial recession that started in 2007-2008 only adds to the picture as a source of further economic strain on households and governments. Compared to the postwar "Golden Age" of Western capitalism that combined decades of economic growth and declining inequality, the current era of rising inequality is likely to challenge both households' private capacity to invest in the next generation and established egalitarian institutions, notably public education. So if rising inequality should be conducive to social closure, many societies may be in for harder times indeed.

## FOUNDATIONAL RESEARCH

Social stratification represents a core area of sociological research, yet concerns for the degree of intergenerational persistence in the distribution of income are also gaining increasing attention in economics in recent years. Differences in disciplinary traditions notwithstanding, both fields are clearly converging in the essentials of their analytical models of social stratification, including their understanding of the relationship between income inequality and intergenerational persistence of welfare. Incorporating key contributions from sociology (notably Blau & Duncan, 1967; Boudon, 1974; Breen, 1997, 2004; Breen & Jonsson, 2007; Erikson & Goldthorpe, 1992; Hout, 2004; Jencks, Smith, et al., 1972; Jencks, Bartlett, et al., 1979) and economics (e.g., Becker & Tomes, 1979, 1986; Bénabou, 2000; Bowles & Gintis, 2002; Piketty, 2000; Solon, 2004), the standard model comprises three main elements to describe the sources of intergenerational persistence in the income distribution, namely, a model of income determination, a model of skill production, and a model of family endowments. Most fundamentally, personal (lifetime) income is the sum of (lifetime) earnings and (lifetime) capital income. In practice, studies of stratification tend to ignore capital income, not the least due to the dearth of social science data on parental and filial capital income or wealth, and also tend to operate on measures of current incomes or occupations as imperfect approximations of personal socioeconomic standing. In the context of the inequality-stratification nexus, however, it seems worthwhile to remind oneself that direct bequests of increasingly unequal wealth holdings are an obvious channel by which increasing income inequality in the parental generation may be directly contributing to increasing persistence of economic status in the filial generation.

Importantly, however, the social science focus on intergenerational persistence in earnings and occupational status reflects the analytical insight that direct wealth transfers are of minor importance relative to the intergenerational transmission of earnings potential in generating social stratification. In fact, if families are successful in transmitting earnings capacity across generations, a certain degree of stratification will exist even in fully competitive labor markets, where (lifetime) earnings may solely be considered the remuneration of scarce individual capabilities; with noncompetitive markets, stratification is bound to be even more significant because economic rents associated with geography, group membership, or tangible assets are also transmitted across generations in that case. To understand the intergenerational persistence of earnings even in fully competitive labor markets, it is useful to further distinguish between skills and endowments as components of individual capabilities. More specifically, there are human capabilities that are the result of conscious investment of time and financial resources, that

is, skills as traditionally described by human capital theory in economics, and there are capabilities that individuals are endowed with as a result of genetic disposition, personality, upbringing, and cultural exposure. Because job tasks typically require some combination of technical skills and more elusive qualities such as worker effort, diligence, and responsibility, both types of individual capabilities will command economic rewards.

The distinction between skills and endowments is important because it taps a fundamental difference in how families may transmit earnings capacity across generations, and this difference in transmission mechanism also has implications for the relationship between inequality and stratification. If economic success depends mostly on skills in the child generation, and if skill acquisition presupposes access to private, that is, parental generation financial resources, the relationship between inequality and stratification will be tight, and any increase in economic inequality in the parental generation will imply greater inequality of opportunity and, eventually, economic standing in the child generation. Yet, both conditions represent important qualifications to naive intuition. The more labor markets deviate from the standard economic model, that is, the more endowments transmitted by exposure rather than investment constitute an important component of human capabilities, the less relevant economic inequality between families in the parental generation becomes for securing offspring's economic well-being. Families are still likely to play a decisive role in shaping relevant preferences, habits, and ambitions in the process of socialization, yet such endowments may correlate only mildly, if at all, with parents' financial resources. This reasoning applies, in particular, if endowments constitute a substitute to formal skills in earnings determination, as is often implicitly assumed.

The relationship between (rising) economic inequality and stratification may also be less than straightforward with respect to skill acquisition proper. According to economic theory, parental financial investment in children represents a rational trade-off between parents' own consumption and child interests. Rising income inequality evidently results in larger inequality of financial means in the parental generation, and, if seen as a permanent change, also increases the economic incentive to invest in scarce skills in the filial generation. But again the extent to which rising inequality will feed through across generations is likely to be counterbalanced by other processes. At the family level, the issue is with the correlation between parental income and parental altruism, which may be negative and becoming more decidedly so as inequality rises. At the societal level, the fundamental issue is the role of public education which represents the most evident form of collective instead of private investment in children's skills. To the extent that

public education systems effectively redistribute opportunities for investment in skills, this will attenuate the relationship between the (increasing) inequality of family resources and the inequality of earnings capacity in the child generation. If anything, this role of public education is exacerbated where schools and universities shape endowment-type capabilities over and above pure skill acquisition, that is, where educational institutions provide appropriate role models, peer groups, and information or foster individual work ethics in a broad sense.

These various counterbalancing forces notwithstanding, rising inequality in itself may also alter the process of skill acquisition in ways to further increase the role of parental income, and hence social stratification. One aspect is that the recent rise in income inequality has been accompanied by a rise in income volatility. The distinction may be important insofar as families may be expected to act on permanent as opposed to current incomes when making decisions about children's education, and because volatility shocks to family income are likely to hit low-income households and their children disproportionately, whether because of income volatility being larger relative to long-run incomes in the lower tail of the distribution or due to the increasing role of risk aversion in low-income families' educational decisions in the face of rising income volatility. Secondly, rising inequality of incomes may contribute to increasing residential segregation, and if so, to an increasing social segregation of learning environments, adolescent networks and peer groups in local schools and beyond. Yet, because the social composition of learning environments is a major factor in determining children's educational performance, any such inequality-induced segregation is likely to imply poorer educational outcomes among lower middle class and low-income families in particular, who may increasingly lack appropriate role models, peer groups or information on the economic value of education. Finally, and perhaps most fundamentally, rising economic inequality may also undermine the effectiveness and political economy of public education systems, perhaps especially so at the tertiary level. With rising private incentives to skill acquisition, affluent families are increasingly likely to resort to private education as a means of exclusive investment in scarce capabilities, and redistributive educational policy, whether through income-related grant programs or income gradients in public infrastructure investment and school budgets, may become a more politically divisive issue.

## **CUTTING-EDGE RESEARCH**

Analytically, standard sociological and economic models of intergenerational persistence in earnings, incomes, and socioeconomic status suggest

the presence of some positive relationship between income inequality and stratification. However, proper identification of this relationship in empirical research, let alone arriving at a valid estimate of its magnitude, represents a formidable challenge. The empirical study of social stratification generally implies extensive demands on the empirical data as it requires multigeneration data on personal socioeconomic standing, ideally measured over a period of several years in order to measure respondents' long-run position and at the right time biographically, that is, parental economic position during respondent's childhood and adolescence, and respondent's economic position no earlier than at the point of career stabilization. To economists working on income data, the ideal dataset would thus minimally include several years of data on parental incomes during children's early years and several years of data on child incomes after ages 35 or 40, which may require the use of longitudinal surveys and extensive observation windows of 25 or more years because information about current income is unlikely to be accurately recalled in retrospect; sociologists working with measures of class, occupational, or socioeconomic status as effective approximations of permanent incomes face a somewhat less daunting challenge because information on parental occupation or education may typically be reliably solicited from surveys in the child generation.

The increasing availability of respective intergenerational data from household surveys has spurred a rich empirical literature on the intergenerational transmission of socioeconomic advantage, as evident, for example, in the contributions of Erikson and Goldthorpe (1992), Breen (2004), Corak (2004, 2013), Bowles, Gintis, and Osborne (2005), Smeeding, Erikson, and Jäntti (2011), or Ermisch, Jäntti, and Smeeding (2012). Yet, any attempt to understand how social stratification is affected by (rising) inequality imposes the additional demand that empirical data on the intergenerational correlation of economic standing be available for families exposed to varying economic conditions, whether changing levels of inequality or changing business cycles. To avoid the effective multiplication of the required observation window—implied in the need to obtain multicohort multigeneration data for any particular country—some scholars report cross-country differences in income persistence across generations, which are suggestive of a clear, although potentially nonlinear, relationship between the level of income inequality in a country in the parental generation and the degree of intergenerational persistence (occasionally called the "Great Gatsby curve," cf. Björklund & Jäntti, 2009; Corak, 2013). The evidence from sociological research on trends in class mobility is more mixed, with Erikson and Goldthorpe (1992) reporting results that (falling) inequality may have spurred social mobility in post-war Europe, yet the more recent analyses of Breen and Luijkx (2004) failing to show any clear relationship between inequality and stratification between the 1970s and the 1990s.

Owing to the severe demands on the data, however, these and other studies often provide only quite limited leverage in ascertaining the empirical relationship directly; with few country cases or short time-series of intergenerational data within any single country available, current research on social mobility still lacks statistical power to effectively identify the empirical contribution of changing contextual factors on stratification, the impact of rising inequality included. Owing both to shorter time spans involved and the application of richer statistical modeling and research designs enabled by better data, somewhat more conclusive evidence on the issue is available with respect to the relationship between income inequality, parental income and children's educational attainment, which may be considered as one, if not the key mediating process involved in generating social stratification.

Out of that literature, Susan Mayer's (2001) study of the impact of rising income inequality on children's educational attainment in the United States between the 1970s and 1990s probably provides the iconic example of research on the relationship between inequality and stratification. Using data on parental incomes and children's educational attainment from the Panel Study of Income Dynamics (PSID) combined with measures of state-level income inequality drawn from the 1970, 1980, and 1990 censuses, Mayer finds support for both the incentive and the resources effect of rising income inequality. According to her analysis, rising income inequality has contributed to rising levels of education, yet also to an increasing polarization of educational investment by family income. It is among affluent families in the upper half of the income distribution where Mayer finds strong increases in children's educational attainment, whereas attainment, notably college graduation, is declining considerably among children from the bottom half of the income distribution. Furthermore, she observes declining educational attainment among children from lower income families despite positive counterbalancing impacts of raises in educational spending. Importantly, these findings on the role of rising inequality obtain over and above controls for parental income, that is, reflect changes in attainment processes other than the direct effect of increasing differences between parents in terms of economic resources; interestingly, many of Mayer's conclusions resonate in a more recent study by Ananat, Gassman-Pines, and Gibson-Davis (2011) who find that area unemployment depresses children's educational performance also when their own parents have not been personally affected.

The multicountry analysis of Sieben and de Graaf (2003) is another study that adds several important insights. Although not set up as any test of the relationship between inequality and educational attainment directly

(instead, Sieben and de Graaf focus on more secular trends of modernization and individualization), their multicohort data is unique in providing information on parents and multiple children from the same family, whereas standard household surveys would typically sample data on respondents and their parents only. With the sibling data at hand, Sieben and de Graaf are able to calculate the total family impact on educational achievement, including effects of family resources other than education or income, say, family relationships or work ethics, that are hard to measure otherwise. In line with the general argument advanced here, their empirical results show the impact of fathers' occupational status—the nearest proxy to family economic standing in their data—to decline with increasing modernization (which roughly correlates with falling income inequality in the period under study); interestingly, however, the overall impact of family resources for educational attainment shows no such trend at all over time. Taking Sieben and de Graaf's results at face value, it hence may be the case that overall stratification has remained relatively stable over time in many countries, not the least because families may substitute intangible for tangible resources even where the direct role of parental incomes in children's educational attainment has been declining for political or other reasons. If a similar logic should apply in current times of rising inequality, intangible family resources may provide sources of resilience that mitigate the stratification impact of increases in income inequality, at least up to a point.

## KEY ISSUES FOR FUTURE RESEARCH

With inequality rising in many affluent and emerging economies around the world, academic and public interest in social science research on the relationship between inequality and stratification is likely on the rise, too. Fortunately, several considerations suggest that social science might be in a reasonable position to meet this emerging interest in the issue with new insights, in particular as far as empirical research is concerned. Most fundamentally, data availability has improved tremendously in many respects, allowing researchers to obtain more specific evidence on the process of intergenerational transmission, and to conduct more sophisticated tests of theoretical models, including the analytical considerations on the inequality-stratification nexus reviewed. New data source include household panel surveys, some of which—for example, the American PSID continuously fielded since 1968 or the German Socio-Economic Panel (GSOEP) started in 1984—have matured up to a point where prospectively recorded data now spans respondents' whole biography from family conditions in childhood and adolescence to respondents' own economic standing in prime working age. In other cases, it has been possible to link social security or similar register data across generations in order to construct highly accurate intergenerational earnings or income data.

With respect to addressing overtime changes in stratification, however, it would seem that the overall maturation of household surveys is a decisive advantage. Begun as instruments of regular social reporting during the 1970s and 1980s in many countries, omnibus social science surveys-such as the US General Social Survey (GSS), the International Social Survey Program (ISSP) and others—that combine representative cross-sectional samples and broad questionnaire content, often including measures of respondents' own economic position and reported parental characteristics, are now available as an impressive time series of data, especially once it is considered that many of the representative samples of the early surveys include information on respondents born in or even before the first decade of the twentieth century. Especially if working within the sociological tradition of class analysis or analyses of socioeconomic status, these surveys increasingly provide researchers with the multicohort data and statistical power required to move from mostly static analyses of intergenerational transmission to a description of trends in stratification and to testing analytical models of changing patterns of stratification.

The increasing wealth of available data is accompanied by an increasing interest in stratification research in both sociology and economics, the two key disciplines involved in this field of research, but most importantly also by an intellectual convergence, if not even an increasing collaboration between the disciplines in terms of theoretical approaches and statistical methodology. Besides the obvious beneficial implications of collaboration with respect to data production, the increasing intellectual exchange between the two disciplines is likely to increase interest in the testing and refinement of the basic analytical frameworks, which is likely to result in a more integrated micro model of intergenerational reproduction of economic advantage. In this context, the issue of whether and which specific measurable aspects of family resources—that is, parental income, class, or education—should be studied or whether the empirical focus should be on total family impact as measured by sibling correlations or related quantities. In part, these questions refer to appropriate measurement and adequate statistical methodology, in part, as briefly indicated in the earlier review, the issue raises important theoretical questions not only about the extent of substitution across alternative types of family resources, and the question of adequately capturing family sources of social reproduction but also resilience in the face of rising inequality. To the extent substitution is feasible, empirical analyses based on any specific measure run the risk of producing conflicting evidence on trends in stratification whenever the relative importance of specific resources—parental

income, education, or work ethics—in transmitting earnings capacity across generations is changing, but not the overall role of the family itself.

With the increasing theoretical sophistication and the increasing availability of data, it is also straightforward to predict a larger role for genuinely causal analysis in the field. At the micro level, this interest is, for example, visible in the collection of genetic data within household surveys in order to improve on estimates of the causal impact of family socioeconomic conditions on children. At the macro level, an increasingly causal orientation of empirical research is likely to spur the collection of multilevel data that merge household and contextual information on economic or political conditions. Especially as far as the impact of rising inequality is concerned, and because observational designs are the natural mainstay of stratification research, the collection of sufficiently rich contextual information to permit the inclusion of appropriate controls for concomitant macro-level change other than rising inequality seems particularly important; occasionally, it may be possible to exploit a clear natural experiment, for example, a specific major policy change, but because stratification refers to an intergenerational, long-term process it may ultimately be much harder to pin down any change to some specific intervention than in other fields of inquiry.

A renewed focus on the causal relationship between inequality and stratification will, finally, also reorient stratification research toward greater analytical and methodological precision. Progress in the area will require a careful distinction between the study of short-term (cyclical) and longer term (secular) effects of rising inequality on stratification, and this also raises the question of appropriate time lags and the appropriate contextual level in the relationship. Because intergenerational processes evolve over considerable spans of time, it is entirely unsurprising that studies on the contemporaneous correlation between inequality and stratification remain inconclusive. Also, the answer to the question of the level at which inequality matters will depend on and inform our theoretical frameworks: if local networks are important in families' expectation formation, then residential area inequality might be the preferred measure, yet national inequality may be more relevant if parents and children expect to be geographically mobile. Similarly, the answers may depend on the national political system and the funding of public education systems that may provide important institutional antidotes to the impact of rising economic inequality on stratification. Evidently, the search for any mediating factors in the inequality-stratification nexus is an exceedingly important issue in itself, ranging from the search for potential interactions between inequality and educational policy or tax and transfer systems more generally, but also for nonlinearities in the relationship between inequality and stratification that may suggest break-even points in family, community, or political resilience favoring equal investment in children even in the face of rising inequality.

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## **FURTHER READING**

Bowles and Gintis (2002) concisely describe the analytical and empirical fundamentals of stratification research. Breen and Jonsson (2005) provide a recent review of empirical research in sociology, including a review of findings on trends in stratification; Björklund and Jäntti (2009) as well as Corak (2013) give an overview of current economic research, which is less developed in terms of trend analysis, however. Hout (2004) and Solon (2004) are succinct statements of both disciplines' analytical approach to the inequality-stratification relationship, the empirical studies of Erikson (1996) and Mayer (2001) may be considered modern classics.

## MARKUS GANGL SHORT BIOGRAPHY

Markus Gangl is a Professor of Sociology and Chair for Social Stratification and Social Policy at the Goethe University Frankfurt am Main, Germany, and a permanent Honorary Fellow of the Department of Sociology at the University of Wisconsin-Madison. His research interests include social stratification, labor markets, income inequality, poverty, unemployment, and quantitative methods in the social sciences, notably problems of causal inference and methods for analyzing longitudinal data. Gangl has published on scar effects of unemployment (American Journal of Sociology, 2004; American Sociological Review 2006), labor market matching (European Sociological Review, 2004), poverty and income dynamics (Work & Occupations, 2005; Zeitschrift für Soziologie, 1998), school-to-work-transitions (European Sociological Review, 2003; Transitions from Education to Work in Europe, Oxford University Press, 2003, with Walter Müller), the effects of motherhood on women's wages and employment (Demography, 2009; European Sociological Review, 2014, both with Andrea Ziefle) and the methodology of causal inference in the social sciences (Sociological Methodology, 2004, with Thomas A. DiPrete; Annual Review of Sociology, 2010). In current projects, Gangl examines the role of recessions for stratification outcomes, addresses trends in the distribution of wages, incomes and poverty persistence, and contributes to the development of statistical methodology in these areas of research.

Personal webpage:

http://www2.uni-frankfurt.de/46138381/mgangl

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