ECONOMIC CHANGE AND THE LEGITIMATION OF INEQUALITY: THE TRANSITION FROM SOCIALISM TO THE FREE MARKET IN CENTRAL-EAST EUROPE

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ABSTRACT

This article takes advantage of a unique historical opportunity, the transformation of Central-East Europe with the collapse of Communism, to address a fundamental question in the social justice-equity-legitimation research tradition: how strong is the link between a nation's economy and its citizens' normative judgments concerning income inequality? We argue: (1) that the transition from a socialist economy to a free market economy should increase normative support for income inequality; (2) that to the extent that people perceive differences in pay actually to be large, they will believe more inequality to be morally legitimate; and (3) that normative support for income inequality will be higher among better educated people and among those in higher status jobs. We find that normative support for inequality increased dramatically. In Communist times the Polish and Hungarian publics favored less inequality than citizens of Western nations thought right; but within

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*a decade after the fall of Communism they favored much more inequality than Westerners think right. These normative changes did not arise from socioeconomic or demographic change in population structure but in large part from perceived changes in actual income inequality. Our data are from the World Inequality Study, which pools data from the International Social Survey Programme and other projects; there are 18 representative national samples in six Central-East Europe nations (*N = *23,260) and, for comparison, 32 in Western nations (*N = *39,956).*

Income inequality is a central feature of modern society, a central focus of research in social stratification and labor economics, a key source of political conflict in many nations, and the topic of much philosophical analysis and prescriptive argument (e.g. Aristotle, 322BC; Blau & Duncan, 1967; Franklin et al., 1992; Rawls, 1971; Sen, 1973). Recently a flourishing tradition of empirical research on the origins and development of people's norms about the distribution of income has developed under the rubrics of "social justice," "equity," or the "legitimation of inequality" (Alwin, 1987; Berger et al., 1972; Gijsberts, 1999; Jasso, 1980; Kelley & Evans, 1993; Kluegel & Smith, 1986; Kluegel et al., 1995; Moore, 1992; Zagorski, 1994). This literature shows that in all countries studied so far – poor as well as rich, socialist as well as capitalist – there is near consensus among the general public about how much ordinary workers should earn, and consensus that elite occupations should be paid more than ordinary workers, but widespread disagreement about how much more and why (Haller, 1990; Kelley & Evans, 1993; Svallfors, 1993).

This article takes advantage of a unique historical opportunity, the transformation of Central-East Europe[1] with the collapse of Communism, to address a fundamental question in the social justice-equity-legitimation line of research: how strong is the link between the nation's economy and its citizens' normative judgments concerning income inequality? In Western nations the birth of a market-oriented economy occurred generations ago, far beyond the reach of modern survey research, and moreover stretched over a period of generations. In Central-East Europe it is happening over a brief span of years, in clear view of our eyes and our surveys. This provides an unprecedented scientific opportunity to use systematic survey data to study the links between the economy and individual norms.

This article also addresses a political dilemma faced by Central-East European nations and many other democracies in the developing world: it is by no means clear that the early stages of economic growth, during which inequality inevitably grows (Kelley & Klein, 1982, pp. 184–190; North & Thomas, 1973), can easily

coexist with democracy. Nonetheless, both theoretical considerations (Hirschman, 1981; Offe, 1991) and empirical evidence (Zagorski, 1994) suggest that such coexistence is not only indispensable for political and economic change but also possible. However, if the public finds the new inequality morally objectionable, a populist attack on it becomes a potent political appeal that could easily bring into power governments that hinder political transformation and economic growth, to the long-run disadvantage of all. Indeed, Britain during the first industrial revolution was not fully democratic, nor were most continental European nations around the turn of the century when they were first industrializing, nor are most contemporary Asian "tiger" economies. It is the beginning of the process that seems most fragile, but once underway, there seem to be reciprocal reinforcing relations between political and economic freedom on one hand, and inegalitarian attitudes on the other.

This article shows how the shift from an objectively egalitarian command economy under Communism toward a free-market economy in Central-East Europe dramatically changed the public's norms about income inequality. The data show that the result was rapidly growing acceptance of inequality, taking public opinion far from the egalitarian norms of the past. But these changes were no swifter than the rapid growth in actual inequality. So, our analysis shows that the potential conflict between economic development and democracy still exists, but is now no greater that it was in the past despite the dramatic growth in actual inequality.

Data are from the World Inequality Study, a project pooling data from the International Social Survey Programme, the International Survey of Economic Attitudes, and other projects (Kelley et al., 2003). There are 18 surveys, all representative national samples, in six Central-East European nations with 23,260 cases in all. For comparison, we also analyze 32 representative national samples of Western nations, with 39,956 cases.

THEORY

The Setting

In recent years in both Central-East European and Western nations there has been a marked shift toward more free-market economies: (1) After the fall of Communism in 1989–1990, more market-oriented economies have emerged throughout East, Central-East and Central Europe (Clauge & Rausser, 1992). These changes have been most dramatic in Poland, where early "shock treatment" shifted the economy rapidly in a market direction (Balcerowicz, 1994; Bartholdy & Flemming, 1993;

Lipton & Sachs, 1990). Hungary and the Czech Republic are almost as advanced in their economic transformation, although the changes were more gradual there (Adam, 1993; Koves, 1992; Thomas, 1992). The subsequent return to power in Poland and Hungary of elected coalitions dominated by reformed ex-Communists has slowed the rate of change but not stopped it; (2) Economic rationalists (and their political allies under various labels) have led the way to substantial economic reform in Australia, the USA, and many other Western countries in the past decades (Capling & Galligan, 1992; King & Lloyd, 1993; Pusey, 1991; Yergin & Stanislaw, 1998).

By creating new opportunities and by undermining older government policies that had both favored blue-collar workers and imposed many constraints on would-be entrepreneurs, these market-oriented changes increased income inequality in Central-East European nations.[2] For the general logic by which inequality grows, examples from other times and places, and the influence of initial conditions, see Gerber and Hout (1998), Kelley and Klein (1982, pp. 184–190), Nee and Matthews (1996), or North and Thomas (1973).[3] In particular, the incomes of high-status jobs requiring university education rose (Beskid et al., 1995; Danziger & Gottschalk, 1994; Headey et al., 1995; Murphy & Welch, 1994).[4] How, then, do ordinary people evaluate the resulting inequality of income?

Self-Interest and the Moral Evaluation of Income Inequality

That people's economic views are shaped by their self interest, their "pocket-book," is a familiar assumption, common to Marx, classical economics, and sociological functionalism (e.g. Davis & Moore, 1945). Stretching the time horizons forward, expectations of personal benefits to come in the future also provide a motive for accepting the market and inequality, even for people who have not so far benefited from it (the "tunnel model": Hirschman, 1981; Offe, 1991; Zagorski, 1994).

Implications of self-interest considerations for the legitimacy of inequality are not entirely certain, since it was somewhat unclear at the time which groups would benefit, and which would lose, from the emergence of a market economy in formerly Communist nations. But it seems likely that people were experiencing and perceiving generally better prospects to the well educated rather than the poorly educated, to those in higher status jobs rather lower status jobs, to supervisors and the self-employed rather than ordinary employees, to those already prosperous rather than the poor, and to the middle class rather than the working class. If so, these groups can be expected to take a more benign view of income inequality, hoping themselves to benefit in the long run.

"Intellectual" Considerations Relevant to Acceptance of the Free Market

Simple self-interest may not be the only, or even the main motivation. For example, much evidence suggests that ordinary people shape their political decisions more by their perception of the general good of the nation as a whole than by simple self-interest (e.g. Eulau & Lewis-Beck, 1985; Lewis-Beck, 1988). Thus people who believe that, for the population at large, the free market is legitimate, efficient, or reasonable will hold a more sympathetic view of it and its consequences, including inequality. There are several reasons for this:

- The assumption that market reform will in the long run be beneficial to most people, bringing Central-East Europe closer to the visibly superior standard of living in the West, is a strong reason for accepting it for the public good, regardless of one's personal prospects (Frentzel-Zagorska, 1993; Lewis-Beck, 1988; Mason, 1995; Zagorski, 1994).
- Intellectual attraction to the merits of a free market has the same consequence. The intellectual ascendancy of neo-classical free market economic reasoning (represented, for example, by Schultz's (1980) Nobel Lecture; Yergin & Stanislaw, 1998), has led to a near consensus among the elite in many nations favoring only a limited role for government in the economy (e.g. Frentzel-Zagorska & Zagorski, 1993; Putnam et al., 1993, pp. 28–38), although ordinary citizens in Central-East Europe do not share this view (Sikora & Kelley, 1999).

Consequences of Accepting the Free Market

Accepting something new also implies some acceptance of its consequences. For example, if you decide to build yourself a new house, that implies also accepting some intrinsically attractive consequences (e.g. having more space), accepting some consequences of uncertain intrinsic worth (e.g. living in a new neighbourhood), and accepting some intrinsically undesirable consequences (e.g. having to pay a new mortgage). Similarly, accepting the free market provides strong grounds for also accepting its varied consequences. These include competition; minimal government regulation; relatively free trade; the rule of law; willingness to let employment in uncompetitive industries decline and to let weak firms expire; provision of health and welfare benefits by government or by insurance rather than entirely by the firm (so job losses do not imply destitution); and many others. We argue that income inequality is one of the free market's inevitable consequences: it is both a pre-requisite for the free market – providing motivation for workers to invest in training and to work hard – and a consequence of the free

market – arising out of differences in workers' resources, effort, talent, and luck. As a result, those who accept the free market will tend also to find inequality legitimate on the pragmatic ground that it is inevitably part and parcel of the attractive free-market package.[5]

Moral Authority of the Market Ideal

There are also moral reasons that can lead to the same conclusion. The four styles of moral reasoning commonly used in Western societies include the authoritative mode invoking the moral sanction of some legitimate authority (Bellah, 1974; Potter, 1972; Tipton, 1982).[6] Historically, the most familiar example of the authoritative mode is a church pronouncing on moral issues. But in modern societies legitimate authority is, in addition, sometimes national (for example, appeals to the American way of life as a justification for free speech), and sometimes political (for example, party loyalties shaping voter's attitudes on political issues, e.g. Nie et al., 1979) and also, we suggest, sometimes economic. Specifically, appeal to the legitimacy of the free market can be used to morally justify its diverse consequences, including inequality (Yergin & Stanislaw, 1998). Appeal to theological individualism can have the same effect (Davis & Robinson, 1999).

Rewards to Productivity

Following Aristotle in the Nicomachean Ethics, we suggest that many people will accept the general principle that rewards ought to be proportional to productivity: That people whose skill, effort or ability enable them to produce more ought to be rewarded in proportion; and that equal pay for unequal contributions is unjust. If Aristotle was correct about his time, this norm dates back to the origins of Western civilization. In a world of small, independent producers – like most of the Western world from Aristotle's time through the nineteenth century – the principle is a natural one, involving little more than abjuring theft and eschewing economic discrimination. For example, if you work twice as hard as I do, or twice as skillfully, and so make twice as many sandals as I, you will have twice as many to sell at the end of the day, and so twice the income I have. Twice as much, that is, unless buyers discriminate against you by offering a premium for my sandals – thus wasting their own money, since discrimination in a competitive market is costly to those who do it (Becker, 1971; Ehrenberg & Smith, 1982, pp. 401–412) – or unless governments impose tax, license or regulatory policies that achieve the same effect indirectly.

This view is close to the "marginal productivity theory of distribution" or "neo-classical distribution theory" systematized by nineteenth century liberal economists (e.g. Adam Smith, 1776[1937]; for a summary of some difficulties

see, for example, Frank, 1985, Chap. 6; Thurow, 1975, Chap. 2). Sociological functionalists make very similar arguments (Davis & Moore, 1945), with similar uncertainties (e.g. Tumin, 1953), and similar empirical consequences (Stinchcombe, 1963). Some philosophical arguments lead to similar conclusions (e.g. Nozick, 1974). The hypothesis of widespread public acceptance of productivity norms is strongly supported by decades of research in experimental social psychology showing that rewarding "inputs" is one of the important ways to achieve justice or fairness in social exchange (e.g. Berger et al., 1972; Walster et al., 1978).

This theory implies that changes in productivity will cause changes in people's views about legitimate earnings. Thus if a change in circumstance increases an occupation's impact on productivity, then its legitimate earnings will increase correspondingly (Stinchcombe, 1963). So if the emergence of a free market, full of opportunity and risk, in place of the rigidities of a command economy increases the payoff of good management and good government, then the earnings thought legitimate for managers and government officials will grow correspondingly. This argument assumes: (1) that these increases reflect greater gains in the productivity of high-status workers than in the productivity of workers in low status occupations, as neo-classical economic theory implies; (2) that the general public correctly perceives these increases (as we demonstrate below); and (3) that the public attributes these changes to growth of productivity or believe that they increase the common good.[7] Alternative explanations – for example, political privilege, bureaucratic favoritism, corruption, or crime – may be part of the story part of the time, but are implausible as general principles.[8] Insofar as these assumptions hold, the earnings regarded as legitimate for high status occupations should rise correspondingly.

Implications. Most of these essentially "intellectual" considerations are more likely to be known to, and understood by, the educational elite than by ordinary citizens, and more by the prosperous than the poor. They are also more likely to be understood by people working in high status, cognitively complex occupations that afford a wide overview of economic change, rather than by people in routine, narrowly focused manual jobs. That implies a link between education and acceptance of inequality, and between occupational status and acceptance of inequality. But it does not imply any particular link with supervision, business ownership, government employment, or subjective social class. In contrast, arguments based on self-interest imply a link between views about inequality and supervisory position, business ownership, government employment, and subjective class, as well as a link with education, income, and status.

Summary of Hypotheses

Thus we have argued that:[9]

Hypothesis 1. The transition from a socialist economy to a free market economy will increase normative support for income inequality.

Hypothesis 2. To the extent that people perceive differences in pay actually to be large (and attribute them to productivity, or believe they increase the common good), they will believe inequality to be morally legitimate.

Hypothesis 3. In the transition from a socialist economy to a free market economy: (a) normative support for income inequality will be higher among better educated people rather than the poorly educated, among the prosperous more than among the poor, and among those in higher status jobs rather lower status jobs (for both intellectual and self-interested reasons); while (b) normative support for income inequality will be higher among supervisors and the self-employed rather than ordinary employees, and among the middle class rather than the working class (for self-interested reasons).

While "existentialist" theory assumes that the drive for consistency between perceptions of petrified reality and its legitimation results in petrified attitudes that are difficult to change even when the perceptions begin to change, an alternative hypothesis is that perceptions of fast and radical changes would create painfully acute cognitive dissonance, if the norms did not also change in tandem. In contrast to these rigid formulations, another argument is that people seek "optimum arousal" stemming from reducing cognitive dissonance to a moderate level (Berlyne, 1960; Frentzel, 1965) rather than seeking total dissonance reduction (Festinger, 1964). In this view, if the system as a whole is felt to be legitimate, the "normal gap" between perceived levels of inequality and norms concerning them may hold steady or even increase during periods of change. Thus, we also argue that:

Hypothesis 4. The perception of rapidly growing inequality leads to the legitimation of more inequality than was accepted in the past. The gap between perceived and accepted inequality may even grow. As a consequence, given system legitimacy, perceptions of inequality determine its legitimation to a great extent, though this determination is far from perfect or complete.

Rejected Alternative Theories

There are several plausible alternative theories which are inconsistent with our arguments. We will suggest that all of them should be rejected.

- *Egalitarianism*. Radically egalitarian views reject anything – not just productivity – as a legitimate basis for inequality. Examples are the strong egalitarianism of early Christianity, some economists and moral philosophers (e.g. Rawls, 1971; Sen, 1973, pp. 77–106), many revolutions, and most utopian communities. Some have argued that egalitarian norms are widespread in modern societies, especially socialist ones (Bell, 1972, p. 40; Jasso, 1980). This directly contradicts our Aristotelian hypothesis.
- *Enlightenment*. A persuasive argument can be made that the general tenor of intellectual and cultural change in the 19th and 20th centuries – the *zeitgeist* of the time – is liberal and egalitarian (e.g. Chirot, 1986; Robinson & Bell, 1978). Starting with the conservative, religious, highly stratified, often aristocratic societies of the 18th century, over the course of the 19th and 20th centuries scientific progress, secularization, economic growth, the spread of democracy, the expansion of the welfare state, and related changes have undermined tradition, religion, privilege, and economic inequality. A natural implication is that people's norms about inequality are, over time, becoming more egalitarian. This is in contrast to our Aristotelian prediction that changes over time are becoming less egalitarian.
- *Existential Theories*. "Existential" arguments posit that whatever is factually the case comes in time to be accepted normatively – that habit, familiarity, and comparison with the perceived rewards of similar others confer legitimacy (Berger et al., 1972, p. 139; Heider, 1958, p. 235; Gijsberts, 1999, pp. 51–80; Homans, 1974, p. 250). During Communism's 40 year reign, income differences were much smaller than in the West and the white collar jobs held by the "intelligentsia" were downgraded (Domanski & Zagorski, 1991; Kraus & Hodge, 1987). The dominant elite glorified manual labor, especially in heavy industry. Thus if values come from habit and experience, Central-East Europeans would hold much more egalitarian views than Westerners. While this might change after the fall of Communism – just three or four years before our surveys – a lifetime of experience and propaganda would, on existential arguments, fade only slowly. So existential arguments imply that differences in earnings will continue to be illegitimate in the formerly socialist societies of Central-East Europe, changing only gradually toward the greater acceptance of inequality typical of market societies. This conflicts with our prediction that rapid economic change produces rapid changes in norms.

DATA

Our data are from the World Inequality Study, a project pooling data from the International Social Survey Programme, the International Survey of Economic

Attitudes, and other projects into a single harmonized file suitable for cross-cultural and over-time analyses (Kelley et al., 2003).[10]

The International Social Survey Programme (ISSP)

Most of the data are from the 1987–1988, 1992–1993, and 1999–2000 "Social Inequality" modules of the International Social Survey Programme.[11] These surveys mostly began with interviews with a stratified random sample followed by a leave- behind self-completion questionnaire with the ISSP items; several were conducted entirely by mail and some entirely by interview. Australia's survey was a simple random sample but the other surveys involved various forms of clustering. Completion rates averaged around 60%, counting losses at the interview and the drop-off stages (for details on the sampling techniques and response rates for each country, see www.issp.org). These rates compare favorably with recent experiences in many industrial nations (e.g. the highly regarded 1989 International Crime Victim Survey averaged 41% over 14 nations [van Dijk et al., 1990]). These data have been widely used in international comparisons (e.g. Kelley & Evans, 1995).

As this paper focuses on changes over time, we restrict analysis to nations with data in two or more time periods: (1) The ISSP participants[12] in Central-East Europe include: Lilia Dimova (Agency for Social Analyses, Bulgaria); Ludmila Khakhulina and Tatjana Zaslavskaya (Center for Public Opinion and Market Research, Russia); Brina Malnar and Nikos Tos (Lubljana University, Slovenia); Petr Mateju and Michal Illner (Institute of Sociology, Academy of Sciences of the Czech Republic); Peter Robert (Social Research Informatics Center TARKI, Hungary); (2) ISSP participants in the West include Jos Becker and Masja Nas (Sociaal en Cultureel Planbureau, the Netherlands); Bogdan Cichomski and Pawel Morawski (Institute for Social Studies, University of Warsaw, Poland); James A. Davis, Tom W. Smith and Mike Hout (National Opinion Research Center, USA); Alan Frizzell and Heather Pyman (Carleton University Survey Center, Canada); Philip Gendall (Department of Marketing, Massey University, New Zealand); Max Haller and Franz Hoellinger (Institut fuer Soziologie der Universitaet Graz, Austria). Janet Harkness, Peter Ph. Mohler and Michael Braun (Zentrum für Umfragen, Methoden und Analysen, Germany); Roger Jowell, Sharon Witherspoon and Lindsay Brook (Social and Community Planning Research, Britain); Jonathan Kelley and M. D. R. Evans (Melbourne Institute of Applied Economic and Social Research, University of Melbourne, Australia); Mahar Mangahas, Mercedes Abad, Linda Luz Guerrero, Felipe Miranda, Steven Rood and Ricardo Abad (Social Weather Stations, The Philippines); Knut Kalgraff

Skjak, Bjørn Henrichsen, Knud Knudsen and Vigdis Kvalheim. (Norwegian Social Science Data Services); and Stefan Svallfors and Jonas Edlund (Department of Sociology, University of Umea, Sweden); (3) The Zentralarchiv fuer Empirische Sozialforschung at the University of Koeln (1994) and the Spanish data archive (Diez-Medrano, 2002) painstakingly cleaned the data; their files were, with extensive modifications and refinements, incorporated into the World Inequality Study.

The International Survey of Economic Attitudes and Other Surveys

This paper also uses data from the International Survey of Economic Attitudes (ISEA), a collaborative international project begun in 1991 (Kelley et al., 1998), which has conducted surveys in Australia, Bulgaria, Finland, Hungary, the Netherlands, and Poland.[13] The ISEA survey methodology is similar to that of the ISSP, in most cases done by the same survey organization. Several other surveys, not part of the ISEA or ISSP are also used, as detailed below.

Poland

Our most extensive Central-East European data are from Poland, including one survey from the Communist era. Six Polish data sets are used: (1) The first is from the 1987 Social Structure Survey conducted on a national stratified random sample by a team of researchers from the Institute of Sociology, the University of Warsaw and the Institute of Philosophy and Sociology, Polish Academy of Sciences (Slomczynski et al., 1989). There are 807 cases. The questions analyzed here were asked only of those currently employed; however analysis of other Polish (and Hungarian) surveys shows that the employed do not differ appreciably from the rest of the population on the issues at hand; (2) The second Polish survey was conducted by the survey unit of the Polish Academy of Sciences as a post-election panel in the 1991 election survey organized by the Academy's Institute of Political Studies (Gebethner & Raciborski, 1992; Kelley et al., 1993). The first wave of the panel was a nationally representative, stratified random sample conducted just before the parliamentary elections in 1991. The completion rate was 85% and the sample is representative of the population in age, sex, education, and rural vs urban residence. Demographic and background variables are from this wave. Attitudinal data are from the second wave conducted in December 1991 as a panel on the first. The completion rate was over 90% and the sample is representative of the population in age, sex, education, and rural vs urban residence. There are 1,519 cases; (3) The third and fifth Polish surveys were from the 1992 and 1999 rounds of the ISSP (Cichomski & Morawski, 1999); (4) The fourth and sixth Polish surveys

were conducted in 1994 and (as a panel based on it) in 1997 as a part of International Survey of Economic Attitudes by the Centre for Social Opinion Research (CBOS), Warsaw, a highly regarded quasi-government agency. Completion rates were over 90% in the first survey and 78% in the second, with 2,127 cases and 1,669 cases respectively.

Hungary

The three Hungarian surveys, including one in the Communist era, were collected by Tarsadalomkutatasi Informatikai Egyesules (TARKI), Hungary's ISSP member and leading academic survey center. Their surveys were based on stratified random samples drawn using the official "personal number system" identifying each resident: (1) The first and third Hungarian surveys were conducted as part of the 1987 and 1999 ISSP surveys (Kolosi & Robert, 1999). There are 2,606 cases; (2) The second Hungarian survey constituted a part of the TARKI 1992 Social Mobility Panel (TARKI, 1993). Face-to-face interviews were conducted in May and June 1992 by trained interviewers; the completion rate was 82%. The background and demographic data used in the analysis are from this wave of the survey. Attitudinal data are from the second wave, a panel on the first conducted in October 1992 by face-to-face interviews with respondents still contactable at the original addresses; the completion rate was 86%. Both the original and panel samples are representative of the population in age, sex, and place of residence (TARKI, 1993). There are 1,250 cases.

Western Nations

(1) The eight Australian surveys were collected in by the International Social Science Survey, Australia's leading academic survey and the Australian ISSP member (Kelley & Evans, 1999). Three surveys included an ISSP module and the rest included the ISEA. All were based on simple random samples of Australian citizens drawn from the compulsory electoral roll using a slight modification of Dillman's Total Response Method (1993) with up to four follow-up mailings, two with fresh copies of the questionnaire, over a six to nine month period. Several surveys included a panel component. Comparison of mail and face-to-face surveys using the same questionnaire suggests that mail produces identical or sometimes superior results (Bean, 1991; Visser et al., 1996). Completion rates were 60–65%, which compares favorably with recent experience in the USA (Dillman, 1993, p. 234) and many industrial nations (e.g. van Dijk et al., 1990). There are 17,079 cases in all. The surveys are representative of the population in sex, age, education, occupation, labor force status, and other variables that can be compared with the census (Bean, 1991, 1995). (2) There are three surveys of the Netherlands, one the 1987 ISSP (Becker & Nas, 1987) and the second by the ISEA group largely

replicating the 1992 ISSP (Gijsberts & Ganzeboom, 1996). The third, part of the ISEA, was in 1998 (Nieuwbeerta et al., 1998). There are 1,638, 993 and 790 cases respectively. All are random samples and representative of the population in age, sex, education and occupation.

MEASUREMENT

Legitimate Earnings

The legitimate earnings questions have been extensively tested and shown to have good measurement properties in a dozen diverse nations (Kelley & Evans, 1993, pp. 88–93; see also Sarapata, 1963; Verba & Orren, 1985, Chap. 8). They are from the International Social Survey Programme's 1992 "Inequality-II" module, in turn a refinement of its 1987 "Inequality-I" module. The wording:

> Next, what do you think people in these jobs ought to be paid – how much do you think they should earn each year before taxes, regardless of what they actually get . . .
>
> | | Please write in how much they ought to earn each year |
> |---|---|
> | a. First, about how much do you think a skilled worker in a factory ought to earn? | $ _____ dollars |
> | b. A doctor in general practice? | $ _____ dollars |
> | etc . . . | |

Further occupations followed, covering the full range from the lowest to the very highest: (1) *Blue collar workers*: "Unskilled worker in a factory" and "skilled worker in a factory." We use these occupations as the baseline to which other occupations are compared;[14] (2) The *economic elite*: "the owner-manager of a large factory," and "the chairman of a large nation-wide corporation;" (3) *Professionals*: a "lawyer" and a "doctor in general practice;" (4) *Elite government* officials: "A cabinet minister in the {national} government" and "a judge in the {nation's highest appellate court}."[15]

Answers to these questions were in local currency units. We express these as a ratio to each respondent's views about the proper income for two low status occupations (averaged): unskilled workers and skilled factory workers. For example, suppose a respondent thinks unskilled workers should earn \$20,000 and skilled workers \$30,000, for an average of $(\$20,000 + \$30,000)/2 = \$25,000$. If the same respondent thinks that a lawyer ought to earn \$50,000, we treat that as $\$50,000/\$25,000 = 2$, i.e. twice as much as for low status jobs.

Several points should be noted about this definition: (1) The use of a ratio is usual in this context (Arts et al., 1995; Kelley & Evans, 1993). It abstracts away from currency units (e.g. zlotys or dollars) and allows cross- national comparability; (2) A ratio also abstracts away from absolute levels of pay (which vary substantially between richer and poorer nations), to focuses directly on the *relative* income hierarchy. For example, if a Australian thinks that professionals should earn $50,000, which is roughly twice the average unskilled wage in Australia, we take that to be the same as a Pole saying professionals should earn 20,000 zlotys which is about twice the average Polish unskilled wage, even though the $50,000 buys much more than the 20,000 zlotys; (3) We make no adjustment for taxes. Tax incidence studies suggest that in most countries the actual incidence of all taxes combined is approximately a flat percentage of income. If so, adjustment for taxes would not affect the ratios we use and our results would be unchanged.

For these figures, we use a denominator specific to each respondent – the respondent's own views about unskilled and skilled workers.[16] We do this with some hesitation since ratios (or difference scores, as they are in our log formulation) can be problematic. However because of the rapid social change, vast inflation, and currency changes in Central-East Europe during this period, the public's knowledge of actual income levels in local currency units is uncertain. Some seem to have thought in terms of price levels that prevailed six months or a year before the interview, while others made larger or smaller adjustments for inflation. We eliminate these sources of error by taking the ratio to the respondent's own perceptions, since their time-frame and inflationary perceptions appear in both numerator and denominator, and so cancel out. In our judgment, the advantages of this approach outweigh the disadvantage of using ratio scores. Specifically, for each respondent, i, we calculate:

$$\text{legitimate income of ordinary workers}_i = \frac{\text{income unskilled workers ought to earn}_i + \text{income skilled workers ought to earn}_i}{2} \tag{1}$$

We then divide respondent *i*'s answers on the legitimate earnings of other occupations by this figure and take the natural log of the result. For example, for a lawyer:

$$\text{legitimate income of lawyer}_i = \ln \frac{\text{income a lawyer ought to earn}_i}{\text{legitimate income of ordinary workers}_i} \tag{2}$$

Analyzing the logarithm implicitly assumes that people think mainly in percentage terms, treating, for example, a 10% raise in a lawyer's income as similar

to a 10% raise in a secretary's, even though the absolute amount is quite different. This approach is strongly enjoined by theory, past research on these questions, and studies of income inequality (Arts et al., 1995; Jasso, 1980; Kelley & Evans, 1993).

A variety of plausible alternative specifications lead to the same conclusions. Specifically, a lawyer's income could be measured simply in local currency units (although metric coefficients are then not comparable across countries), or their log (comparable slopes, but not intercepts), or converted into U.S. dollars at parity purchasing power. Or it could be measured relative to the average income of unskilled workers in that country, or what the respondent believes unskilled workers actually earn, or alternatively by the log of either of those. All lead to the same substantive conclusions (as in previous research using similar items: Kelley & Evans, 1993, Appendix); complete results are available on request.

Attitude Structure

The incomes people believe to be legitimate for various elite occupations are highly correlated both in Central-East Europe and in the West (Table 1). Previous research found similarly high correlations among a diverse range of elite occupations (Kelley & Evans, 1993, pp. 89–93). Analysis earlier Polish and Australian surveys with a more extensive list of occupations confirms the generality of these patterns. In particular further distinctions between government and private sector employment – for example, skilled worker in a government factory versus skilled worker in a private factory, or director of a government owned bank versus director of a private bank – mattered little to respondents.

Factor analysis clearly shows a single factor both in Central-East Europe and in the West (Table 1, last column). Furthermore, all six items have very similar correlations with a range of criterion variables, as they should on the classic psychometric measurement model for a single homogenous factor. Note, however, that the pattern of correlations in Central-East Europe differs from that in the West, particularly with respect to historical period, education, and age. Also in Central-East Europe, views about medical doctors are less closely tied than other occupations to the underlying factor, a departure from Western patterns that has long been noted.[17]

A scale averaging all six items has excellent reliability, with alphas around 0.90 in both Central-East Europe an in the West. Specifically, the scale is:

$$\begin{aligned}&\text{legitimate income of elite occupations}_i = \\ &\quad \text{mean (legitimate income of chairman}_i, \text{legitimate income of factory owner}_i, \\ &\quad \text{legitimate income of lawyer}_i, \text{legitimate income of doctor}_i, \\ &\quad \text{legitimate income of judge}_i, \text{legitimate income of cabinet minister}_i) \end{aligned} \tag{3}$$

where the legitimate income of lawyers, etc, are as defined in Eq. (2).

Table 1. Legitimate Earnings of Various Occupations: Correlations, Means, Standard Deviaitons and Principal Axis Factor Loadings in Six Central-Eastern European Nations (23,260 Cases) and 10 Western Nations (39,956), 1987–2001.[a]

	Correlations						Factor Loading
	Chair	Factory	Lawyer	Doctor	Judge	Cabinet	
A: Central-East Europe							
Chair, large corporation	1.00						0.84
Factory owner	0.73	1.00					0.78
Lawyer	0.64	0.59	1.00				0.80
Doctor	0.55	0.48	0.64	1.00			0.67
Judge, highest court	0.68	0.67	0.69	0.55	1.00		0.86
Cabinet minister	0.64	0.58	0.58	0.50	0.70	1.00	0.76
Criterion variables							
Time	0.27	0.13	0.24	0.14	0.22	0.20	–
Male	0.08	0.09	0.06	0.05	0.06	0.06	–
Age	0.02	−0.01	0.01	0.05	0.02	0.04	–
Education	0.21	0.20	0.14	0.16	0.18	0.17	–
Family income	0.16	0.20	0.21	0.17	0.17	0.13	–
Mean (geometric)[b]	4.22	5.97	2.99	2.27	4.38	4.12	–
Standard deviation	0.77	0.91	0.66	0.51	0.70	0.66	–
B: West							
Chair, large corporation	1.00						0.76
Factory owner	0.60	1.00					0.75
Lawyer	0.59	0.60	1.00				0.82
Doctor	0.58	0.56	0.69	1.00			0.76
Judge, highest court	0.62	0.60	0.68	0.58	1.00		0.81
Cabinet minister	0.59	0.58	0.58	0.54	0.65	1.00	0.75
Criterion variables							
Time	−0.03	0.14	0.14	−0.07	0.04	−0.09	–
Male	0.12	0.10	0.01	0.01	0.06	0.05	–
Age	0.17	0.13	0.14	0.16	0.17	0.16	–
Education	0.05	−0.06	−0.09	−0.05	−0.06	−0.05	–
Family income	0.17	0.15	0.13	0.14	0.13	0.16	–
Mean (geometric)	3.83	3.33	2.75	2.86	3.57	2.91	–
Standard deviation	0.74	0.79	0.54	0.53	0.58	0.62	–

[a] Source: World Inequality Study, incorporating data from the International Social Survey Programme, the International Survey of Economic Attitudes, and other sources. The number of cases varies depending on missing data and because not every occupation was included in all surveys.

[b] Example: Central-East Europeans on average think that the chairman of a large corporation should earn 4.22 times as much as a factory worker (column 1). The legitimate earnings of a chairman is measured in a logarithmic metric, with a raw mean of 1.44; the geometric mean is $\exp(1.44) = 4.22$.

Measurement: Class and Background Variables

We measure class and stratification position broadly, combining ownership of the means of production and authority in the workplace (the heart of Marx's and Dahrendorf's conceptions of class and their modern descendants, e.g. Wright, 1985), with education, occupational status, and income (the heart of the "SES" tradition: Blau & Duncan, 1967). Combined additively, they give a powerful, flexible model of class well suited to comparative research with both conceptual and empirical advantages over typological approaches (Kelley, 1990; Kelley & Evans, 1995). Details are in the measurement appendix.

Measurement: Historical Period

We measure historical period by the date each survey was conducted. The earliest surveys were in 1987, still in the Communist era in Central-East Europe, and the latest in 2001. The largest number of surveys are in 1987/1988, 1992/1993, and 1999/2000. There are Communist era data for Poland and Hungary (as well as many Western nations). By 1992/1993 – still only a few years after the fall of Communism in 1989 – there are data for six Central-East European nations (see Table 2).

Measurement: Other Variables

We control for *age*, *sex*, *subjective social class*, and *labor force participation* (measurement details are in the appendix). Measurement of *perceived earnings* of various occupations is described in the text below.

METHOD

Potential Bias Due To Missing Data

Our key questions about legitimate earnings are difficult, requiring a dollar or other currency unit figure as the answer. This requires more knowledge and thought than traditional survey questions, so there is more missing data than usual, averaging 10–15%, compared to around 10% for family income and under 5% for most other questions. In designing the questionnaire, we chose these questions because they give richer data than the alternatives and allow more persuasive comparisons among countries, but the amount of missing data is a worry. However, a detailed analysis shows that non-response is predominantly random, as also found in earlier analyses of these data (Kelley & Evans, 1993, pp. 118–120), so no substantial difficulty arises (details available on request).

Table 2. Legitimate Earnings of Various Occupations: Geometric Means for Central-East European and Western Nations, 1987–2001.[a]

	Scale: All Items Pooled[b]	Chairman, National Corporation	Factory Owner	Lawyer	Doctor	Judge, Highest Court	Cabinet Minister	Cases
Eastern Europe								
All Eastern Europe pooled								
Communist era	2.56	2.69	–	–	2.03	–	3.25	3,063
1990–1995	3.45	4.10	5.53	2.62	2.19	3.88	3.92	10,846
1996–2001	4.19	5.12	6.50	3.45	2.46	5.02	4.72	9,351
Russia[c]								
1990–1995	3.64	6.14	6.05	2.11	2.08	4.00	4.38	1,761
1996–2001	4.66	7.90	6.81	3.56	2.27	6.93	6.92	1,400
Poland								
Communist era	2.51	2.68	–	–	1.94	–	3.15	713
1990–1995	3.35	3.85	5.46	2.68	2.09	3.72	3.52	4,868
1996–2001	4.77	5.60	8.55	3.96	2.51	5.89	5.47	2,460
Czech Republic[c]								
1990–1995	2.82	2.86	4.90	2.02	1.75	3.28	3.55	1,066
1996–2001	4.41	5.31	7.48	3.49	2.38	5.69	4.62	1,701
Hungary								
Communist era	2.57	2.70	–	–	2.05	–	3.28	2,350
1990–1995	5.30	6.32	7.20	4.37	3.55	5.87	6.63	1,154
1996–2001	6.40	8.51	10.18	5.62	3.85	7.03	6.81	1,054
Bulgaria[c]								
1990–1995	2.94	2.88	4.17	2.51	2.09	3.42	3.50	1,012
1996–2001	2.57	2.59	3.16	2.28	2.01	2.79	2.97	1,792
Slovenia[c]								
1990–1995	3.17	3.73	–	–	2.31	–	3.79	985
1996–2001	3.70	4.59	5.55	2.91	2.52	3.96	3.48	944
Western nations								
Communist era	3.31	4.06	2.35	2.25	3.09	3.39	3.23	11,307
1990–1995	3.07	3.62	3.38	2.78	2.73	3.52	2.70	15,802
1996–2001	3.33	3.90	3.81	2.97	2.85	3.64	2.91	12,847

[a] Source: World Inequality Study, incorporating data from the International Social Survey Programme, the International Survey of Economic Attitudes, and other sources. The number of cases varies depending on missing data; the numbers shown are for the overall scale. Example: Central-East Europeans in the Communist era on average thought that high status occupations should earn 2.56 times as much as a factory worker (row 1, column 1). Legitimate earnings are measured in a logarithmic metric, with a raw mean of 0.94; the geometric mean is $\exp(0.94) = 2.56$.

[b] Legitimate earnings are measured by an additive scale averaging answers about the legitimate earnings of the six elite occupations, each expressed as (the logarithm of) a ratio to the legitimate earnings of skilled and unskilled factory workers. If not all questions were answered, the mean is of those that were answered.

[c] No Communist era data available.

Missing data is treated by the pair-wise present method, which is generally preferable to the usual alternatives (Hertel, 1976; Joreskog & Sorbom, 1988, pp. 1:12–1:17; Little, 1992, pp. 1229–1231).

Model

The model, estimated by OLS is:

$$\begin{aligned}\text{legitimate income of elite occupations}_i = \\ a + b_1\text{Time} + b_2\text{Male} + b_3\text{Age} + b_4\text{Education} + b_5\text{FamilyIncome} \\ + b_6\text{SubjectiveClass} + b_7\text{OccupationalStatus} + b_8\text{Supervisor} \\ + b_9\text{PettyBourgeoisie} + b_{10}\text{Entrepreneur} \\ + b_{11}\text{GovernmentEmployee} + e \end{aligned} \quad (4)$$

To cater for possible interactions, we estimate the model separately for Eastern and Western Europe, and (in other analyses) separately for each Central-East European nation. Some models replace the scale for elite occupations Eq. (3) with each occupation separately. Models estimated for the whole population including those not in the labor force (for whom occupation-related variables are not defined) replace the labor force variables (7–11 in Eq. (4)) with a single indicator of labor force participation.

A more general estimate of changes over time allows for non-linearities by adding a quadratic, time squared, to the model:

$$\text{legitimate income of elite occupations}_i = (\text{Eq.4}) + \text{TimeSquared}_i + e \quad (5)$$

This model is reported in Fig. 1, as are analogous results for time changes in perceived inequality estimated from the analogue to Eq. (5). In practice, time changes in legitimate inequality in Central-East Europe are linear, so our main model remains Eq. (4). However changes in perceived inequality in the East, as well as all changes in the West, have a small but statistically significant curvilinearity, as shown in Fig. 1.

Finally, to estimate the impact of changes in perceived income inequality, we add a term measuring respondents' perception of actual income inequality.[18] For example, for lawyers we estimate:

$$\text{legitimate income of lawyers}_i = (\text{Eq.4}) + \text{PerceivedEarnings}_i + e \quad (6)$$

The "perceived earnings" term is somewhat different (in ways described later) than the corresponding terms in the equations treating the legitimate income of business or government occupations.

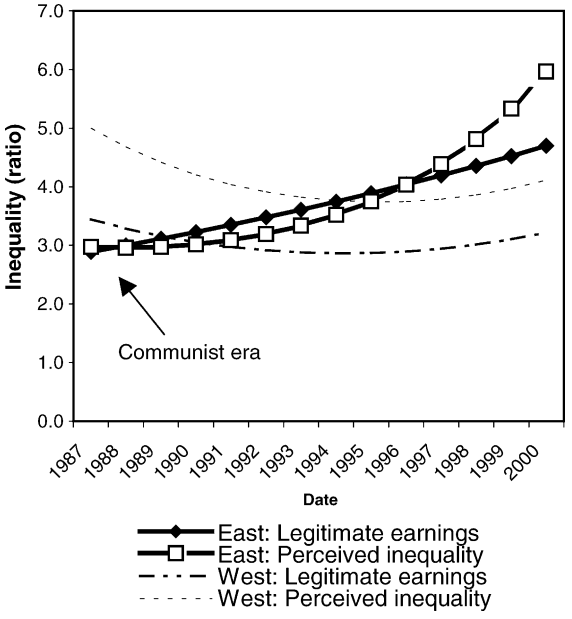

Fig. 1. Legitimate Earnings of Elite Occupations in Central-Eastern Europe and in the West and Perceived Earnings of Elite Occupations. *Note:* Adjusted for differences in background and social structure. Predicted values from Eq. (5), estimated by OLS.

DESCRIPTION

Baseline: Inequality at the End of the Communist Era

Towards the end of the Communist era in the late 1980s, norms about legitimate earnings were quite egalitarian in Central-East Europe, at least judging from the two countries for which data exist, Poland and Hungary (Table 2). They believed that high status occupations like "chairman of a large national company" or "cabinet minister in the national government" should earn around 2.5 times as much as ordinary workers. In contrast, the public in Western nations held less egalitarian norms, thinking the elite should earn 3 or 4 times as much as ordinary workers (see also Kelley & Evans, 1993, pp. 97–100). These differences are in part due to differences in social structure – Central-East Europeans had, on average, less education and lower status jobs than Western Europeans – but even after adjusting for that, Central-East Europeans had more egalitarian values, save perhaps for government officials.[19]

Changes in Central-East Europe After the Fall of Communism

With the shift toward a market economy after the fall of Communism in 1989, normative support for income inequality increased sharply (Table 2).[20] We have the fullest data for Poland and Hungary, so let us begin there.

Poland

By 1991 Poles believed that those in high status occupations deserved to earn around 3 times as much as ordinary workers, up from 2.5 times as much just a few years before. Thus in the brief period between the fall of Communism at the end of the 1980s and our survey in 1991, Poles' norms shifted from one of the most egalitarian known in the literature to a level close to the inegalitarian norms of the West.

As the shift toward a market economy grew apace during the Polish "shock treatment" of the early 1990s (Balcerowicz, 1994), norms about inequality continued to change in concert. By late 1994, Poles had come to believe that those in high status occupations deserved to earn around 3.5 times as much as ordinary workers, rising close to 3.7 times as much by 1997 and fully 7 times as much by 1999, far more than Westerners think proper.

Most dramatically, by 1999 Poles had come to feel that the "owner/manager of a large factory" should earn 14 times as much as an ordinary worker. This is a vast sum, almost four times what they thought right less than a decade before and twice what Westerners think is right (Table 2). This – and the similar if less dramatic change in the pay thought right for corporate chairmen – may come about because factories are key positions in classical free market capitalism, and the hoped-for engine of economic growth in post-Communist economies. Their performance is crucial during the chaotic and uncertain birth of a new economic system, rich with opportunities for future prosperity but equally replete with the treacherous shoals leading to disaster. In such circumstances, good management is highly productive and amply rewarded by the market.

There were similar changes for other elite occupations. But medical doctors, who Poles continue to think should be modestly paid, are a partial exception.

Hungary

The same patterns appear in Hungary (Table 2). By 1992, the egalitarian norms of the past had been replaced by support for inequality close to the higher levels acceptable in the West. This change took Hungary from one of the most egalitarian nations known – one clearly below the Western range – to a position well within the Western range. And by 1999 they accepted much more inequality than Westerners think proper.

Among the most dramatic norms in Hungary, as in Poland, concern the "owner/managers of large factories." There were no private factories in Hungary in 1987 so the factory owner question was not asked then. But in 1987 Hungarians thought it right for cabinet ministers in the national government, many of whom had responsibility for dozens of factories, to earn only 2 or 3 times what ordinary workers earned. By 1992 Hungarians already thought factory owners ought to earn 7 times as much as ordinary workers and by 1999 no less than 10 times as much. This is a huge sum, far beyond anything the Hungarians thought proper in Communist times and over twice as much as Westerners think proper for their factory owners.

Russia

In the 1990s, changes in Russia, the largest Central-East European nation, appear to be broadly similar to those in Poland (Table 2). We have no Communist era data for the USSR, but assuming Russian opinion was similar to Communist era Polish opinion is probably a reasonable guess. In any case, by the early 1990s, Russians thought that elite occupations should earn, on average, about 3.6 times as much as ordinary workers, rising sharply to 4.7 times as much by the end of the century.

Czech Republic, Bulgaria and Slovenia

Changes in the smaller Central-East European nations show a more mixed pattern (Table 2). There are no Communist era data for any of them, so there is again considerable uncertainty.

In the early 1990s, opinion in the Czech Republic was (still?) quite equalitarian, Czechs thinking elite occupations should earn just 2.8 times as much as ordinary workers – little different from Polish opinion in the Communist era. But by the end of the century, this increased sharply to 4.4 times as much, just a little less than Poles or Russians then thought proper.[21]

Bulgaria is very different. In the early 1990s, they thought elite occupations should earn 2.9 times as much as ordinary workers, noticeably less than Poles or Russians then thought proper. But by the end of the century, opinion had shifted slightly against inequality – in the opposite direction to changes in the rest of Central-East Europe – with Bulgarians thinking the elite should get just 2.6 times as much as ordinary workers.

Finally, in Slovenia changes in the 1990s appear to be small and mixed. There is acceptance of much higher pay for corporation chairmen, acceptance of a little more for doctors, but a decline in the pay thought right for cabinet ministers.

Parallel Changes Following Economic Reform in the West?

The general shift in economic policy in Britain, Australia, and many other Western nations in the late 1980s and 1990s was away from a highly regulated

"social-market" type of economy toward a less regulated free market economy. In many ways this parallels the more dramatic changes in Central-East Europe. The data suggest the possibility of a slight change toward accepting more inequality in Australia,[22] Norway (Knudsen, 2001) – a country almost as equalitarian as Communist-era Central-East Europe – and some other European nations (Gijsberts, 1999, pp. 51–80). But other nations show different patterns. Overall, there is perhaps a slight decline in support for inequality from the late 1980s to early 1990s, followed by a slight rise in support for it toward the end of the century (Table 2).

None of these results makes any adjustment for structural changes following the end of the Communist era. It is to these that we now turn.

ANALYSIS

The end of Communism led to a variety of structural changes in the labor market, more in some nations than in others. Most notable was the emergence of private entrepreneurs, the growth of the petty bourgeoisie, and the decline of employment in government owned-industry. It might be that these structural changes alone explain the growing acceptance of inequality, without any deeper sea-change in Central-East European values.

In addition, long run trends toward higher educational levels and an aging population continued unabated in both East and West. There were changes in the distribution of income as well. Any of these could confound the comparison between the Communist era and later times. These complications need to be taken into account. That is done in Table 3, which estimates the models of Eq. (3) and Eq. (4) by ordinary least squares regression.

Adjustment for Structural Changes

In the event, ongoing changes in education, age composition, and family income do not account for changes since the fall of Communism (Table 3, column 1). After taking them into account, very large time changes remain. Indeed, time changes are the single most important influence on views about the legitimate earnings of elite occupations, with $\beta = +0.28$. This is in sharp contrast with the West, where time changes are minor and in the opposite direction, with $\beta = -0.03$ (column 12).

Nor do changes in the labor market account for changes in views about legitimate earnings in the post-Communist era (Table 3, column 2). On the contrary, time

Table 3. Legitimate Earnings of High Status Occupations in Six Central-East European (23,260 Cases) and Ten Western Nations (39,956 Cases) with Data From at Least Two Time Periods, 1987–2001.[a]

	Central-East Europe			Central-East European Nations[b]						Western Nations		
	Beta (1)	Beta (2)	b (3)	Russia b (4)	Poland b (5)	Czech R. b (6)	Hungary b (7)	Bulgaria b (8)	Slovenia b (9)	b (10)	Beta (11)	Beta (12)
Social change												
Time (Decades since 1989)	0.28	0.27	0.37	0.44	0.54	0.58	0.87	−0.23	ns	−0.05	−0.04	−0.03
Background and status												
Male	0.06	0.08	0.10	0.15	0.10	0.08	0.12	ns	0.09	0.08	0.08	0.07
Age (decades)	0.11	0.10	0.05	ns	0.08	0.05	0.08	ns	0.08	0.06	0.14	0.17
Education (years)	0.19	0.14	0.03	0.03	0.04	0.02	0.04	0.02	0.03	ns	−0.02	ns
Family income (ratio)	0.17	0.16	0.06	0.07	0.02	0.03	0.06	0.04	0.03	0.07	0.20	0.23
Subjective class	ns	ns	ns	ns	ns	ns	ns	0.16	ns	−0.13	−0.05	−0.04
In labor force (0 or 1)	0.03	–	–	–	–	–	–	–	–	–	–	−0.07
Social class[c]												
Occupational status (0 to 1)	–	0.08	0.18	0.20	0.20	0.16	0.14	ns	ns	0.08	0.04	–
Supervise (0 or 1)	–	ns	ns	ns	ns	ns	ns	0.10	ns	ns	ns	–
Petty bourgeoisie (0 or 1)	–	ns	ns	ns	−0.08	ns	ns	ns	ns	0.12	0.06	–
Entrepreneur (0 or 1)	–	ns	ns	ns	ns	ns	0.71	ns	ns	ns	ns	–
Government worker (0 or 1)	–	ns	ns	ns	ns	ns	0.19	ns	ns	−0.10	−0.09	–
Constant	–	–	0.39	0.56	0.23	0.27	0.06	0.77	0.47	0.83	–	–
R^2	0.16	0.18	0.18	0.12	0.27	0.31	0.49	0.11	0.15	0.09	0.09	0.09
Scale reliability, alpha[d]	0.905	0.905	–	0.900	0.906	0.895	0.901	0.887	0.857	–	0.899	0.901
Cases	23,260	14,574	14,574	2,031	5,023	1,771	2,831	1,692	1,226	25,102	25,102	39,956
Population, million	–	–	–	148	39	10	10	8	2	–	–	–

Note: ns – not significantly different from zero at $p < 0.01$, two-tailed.

[a] *Source:* World Inequality Study, incorporating data from the International Social Survey Programme, the International Survey of Economic Attitudes, and other sources. The Western nations are Australia, Canada, West Germany, the Netherlands, New Zeland, Norway, the Philippines, Sweden, Great Britain, and the USA. Columns 1 and 12 are from Eq. (3) and columns 2–11 from Eq. (4).

[b] Listed in order of population size.

[c] For those in the labor force only.

[d] Legitimate earnings are measured by an additive scale averaging answers about the legitimate earnings of six elite occupations (chairman of a large national corporation; owner-manager of a large factory; lawyer; doctor in general practice; judge in the nations's highest court; and cabinet minister in the national government), each expressed as (the logarithm of) a ratio to the legitimate earnings of skilled and unskilled factory workers. If not all questions were answered, the mean is of those that were answered. Some early surveys asked only three occupations (chairman, doctor, and cabinet minister). Reliabilities are standardized item alphas.

changes remain large, and are still by far the most important influence, with $\beta = +0.27$. In concrete terms, every decade since the fall of Communism in 1989 has produced an increase in the legitimate earnings of elite occupations of around 47% (column 3; $\exp(0.37) = 1.47 = 47\%$ increase by 1999). This is a dramatic change.

The changes in Central-East Europe seem to have occurred at about the same rate throughout the period since the fall of Communism (Fig. 1).[23] In particular, there is no clear evidence for a disproportionate response to the sudden and unexpected fall of Communism, nor the "shock therapy" that some Central-East European nations underwent in the years immediately following. If anything, it may even be that changes were most rapid toward the end of the century, about 10 years after the fall of Communism. In Poland, the country for which we have the longest series of surveys, this appears to be the case ($t = 19.8, p < 0.001$).[24] But for Hungary, with the next best data, exactly the opposite pattern prevails ($t = -15.8, p < 0.001$). Thus no firm conclusion is warranted.

In Western nations, in contrast to Central-East Europe, there is no substantial change in the legitimate earnings of elite occupations over the last decade of the century (Table 3, column 10 and Fig. 1). If anything, there may have been a slight *decline* from the end of the 1980s to the middle 1990s, followed by an equally small increase through the end of the century (the curvilinearity is significant: $t = 16.4, p < 0.001$).[25]

Differences in Central-East Europe

These patterns are clear in the larger Central-East European nations but not in all of the smaller ones. In Russia, with a population of around 150 million, the legitimate earnings of elite occupations rose by 55% in the decade following the end of Communism (Table 3, column 4; $\exp(0.44) = 1.55 = 55\%$). In Poland, with a population near 40 million – and more extensive marketization of the economy – change was even more rapid: 72% ($= \exp(0.54)$). The same was true in the Czech Republic (79%) and even more dramatically in Hungary (139%). These latter two are both smaller nations, with populations around 10 million, with relatively extensively marketized economies.

However, in small (2 million), generally Westernized Slovenia, there was no statistically significant change, although their norms were not especially egalitarian at the beginning. And in Bulgaria, with a population of 8 million and little marketization, the legitimate earnings of elite occupations actually *declined* 21% between 1992 and 1999.[26] It is not clear why these two nations depart from the general pattern. One possibility is that the citizens of smaller nations are more

likely to take as a reference group the norms and behavior other nations rather than responding to the internal developments in their own economy.

Overall, it seems likely that the general pattern of growing acceptance of inequality applies to the majority of the population of the formerly Communist Central-East European nations, although not to every nation, particularly not all the smaller ones.

Changes in Views about Specific Occupations

The same general pattern holds for all six occupations available in our data (Table 4, panel 1). Changes over time are largest for views about the legitimate pay of the chairman of a large national corporation ($\exp(0.46) = 58\%$ increase) and around 35% for other occupations. Somewhat surprisingly, the growth in legitimate earnings for cabinet ministers in the national government is just as high as for other elite occupations, despite that fact that the actual power of cabinet ministers has declined since the Communist era, as the centralized and authoritarian "dictatorship of the proletariat" faded unlamented into history.

Doctors are an exception to the general pattern: the legitimate pay of a "doctor in general practice" increased by only 14% in Central-East Europe since the end of the Communist era. As we noted before, doctors have long been somewhat of a special case in Central-East Europe. But this is not true of all professional occupations: the pay thought legitimate for lawyers increased by a substantial 43%.

Social Structure and Legitimate Earnings

Education

The most important socioeconomic influence on norms in Central-East Europe is education: the well educated have long been more hostile to Communism and more sympathetic to market reforms than the less educated (Frentzel-Zagorska & Zagorski, 1993; Zaborowski, 1995). They are also substantially more willing to endorse high pay for elite occupations of all types, $\beta = 0.19$ overall (Table 3, column 1) or $\beta = 0.14$ even after adjusting for their better occupational outcomes (column 2). For example, a university educated Central-East European would, on average, favor paying elite occupations 23% more than someone with the same background and occupation who left school at age 16.[27] The effect is larger in Poland and Hungary (about 32%); about the same in Russia and Slovenia; and less in the Czech Republic and Bulgaria (about 15%; columns 4–9). By contrast, well

Table 4. Legitimate Earnings of Various Occupations in Eastern Europe, 1987–2001. 6 Nations with Data from at Least Two Time Periods; Resnondents in the Labor Force Only.[a]

	Business Occupations		Professional Occupations		Government Occupations	
	Chairman, National Corporation b (1)	Factory Owner b (2)	Lawyer b (3)	Doctor b (4)	Judge, Highest Court b (5)	Cabinet Minister b (6)
Panel 1: Basic model						
Time (Decades since 1989)	0.46	0.24	0.36	0.13	0.34	0.30
Male	0.12	0.15	0.07	0.06	0.09	0.09
Age (decades)	0.06	0.06	0.04	0.05	0.06	0.06
Education (years)	0.03	0.03	0.01	0.02	0.03	0.03
Family income (ratio)	0.07	0.09	0.08	0.05	0.06	0.05
Subjective class	ns	ns	ns	−0.10	ns	ns
Occupational status (0 to 1)	0.29	0.17	0.08	0.11	0.12	0.16
Supervise (0 or 1)	ns	0.08	ns	ns	ns	ns
Petty bourgeoisie (0 or 1)	ns	ns	ns	ns	ns	ns
Entrepreneur (0 or 1)	ns	ns	ns	ns	ns	ns
Government worker (0 or 1)	ns	−0.08	−0.06	−0.04	ns	0.06
Constant	0.35	0.79	0.45	0.19	0.58	0.51
R^2	0.16	0.09	0.13	0.10	0.11	0.10
Panel 2: Controlling for perceptions of the actual amount of inequality[b]						
Time (Decades since 1989)	0.30	ns	0.06	−0.06	0.07	0.09
Perceptions	0.43	0.56	0.44	0.28	0.54	0.41
Other variables[c]	–	–	–	–	–	–
Cases	13,747	10,705	11,031	14,320	10,801	13,441

Note: ns – not significantly different from zero at $p < 0.01$, two-tailed.

[a] Russia, Poland, Czech Republic, Hungary, Bulgaria and Slovenia. Number of cases varies depending on missing data and because not every occupation was included in all surveys. Source: World Inequality Study, incorporating data from the International Social Survey Programme, the International Survey of Economic Attitudes, and other sources.

[b] Measured by the perceived earnings of other occupations. To avoid part-whole artifacts, for business occupations this is the perceived earnings of professional and government occupations; for professional occupations, it is the perceived earnings of business and government occupations; and for government occupations, the perceived earnings of business and professional occupations.

[c] Controlled but not shown: male, age, education, family income, subjective class, occupational status, supervise, petty bourgeoisie, entrepreneur, and government worker.

and poorly educated Westerners have much the same views on inequality (Table 3, columns 11 and 12).

The fact that educational differences persist in Central-East Europe even after adjusting for the better jobs education brings, and that there are no corresponding educational differences in the West,[28] both suggest that the education effect is not self-interest – although the well educated do stand to gain more than the poorly educated from marketization – but something else. One plausible candidate is the

greater knowledge and understanding that well-educated Central-East Europeans have of economics, and the intellectual predominance of market economy ideas in the public discourse of Central-East Europe.

Demography and Stratification Position

Demographic influences on legitimate earnings are modest in magnitude both in general (Table 3) and for each specific occupation (Table 4). This is consistent with previous findings (Gijsberts, 1999; Kelley & Evans, 1993):

- Men favor somewhat higher earnings for high status occupations than do women, by roughly 10%. The difference is largest in Russia and Hungary, but evident everywhere, including in the West. The only exception is Bulgaria. Men are especially generous to business occupations (Table 4, columns 1 and 2), but less so to professional occupations (columns 3 and 4).
- Older respondents are noticeably more supportive of inequality in both Eastern nations ($\beta = 0.11$) and, especially, in Western nations ($\beta = 0.17$). But the effect varies in size from nation to nation, disappearing entirely in Russia and Bulgaria. It is about the same size for all six occupations. This is a life-cycle effect, with people becoming more supportive of inequality as they age.[29]
- Family income has a large effect, with the more prosperous in both East ($\beta = 0.17$) and West ($\beta = 0.23$) favoring higher pay for elite occupations. The effect is largest in Russia and Hungary, but is evident in all Central-East European nations. It appears to be a bit stronger for business occupations than for government occupations, with professional occupations somewhere in between.
- Subjective social class hardly matters in Central-East Europe. The exceptions are Bulgaria (where the upper classes favor higher pay for the elite) and doctors (for whom the lower classes favor higher pay). In the West, those subjectively identifying with the upper classes actually favor less pay for the elite than equally well-educated, high status and prosperous people who identify with the lower classes.
- There is little difference between those in the labor force and others. In the East, they are fractionally more supportive of high pay for elite occupations, but in the West slightly less supportive.
- Those in higher status occupations favor higher pay for elite occupations, both in the East and the West. The difference modest: a professional, themselves at the top of the occupational hierarchy would, on average, favor higher pay those in elite jobs. The difference is larger in Russia and Poland, 22%, but absent in Bulgaria and Slovenia. It is largest for business occupations, especially chairman (34%); middling for government occupations; and – surprisingly – smallest for professional occupations (8–10%).

Class Position

Other class differences are modest:

- Supervisors support no higher pay for elite occupations than anyone else, save in Bulgaria. But they would pay factory owners a modest 8% more than others think proper.
- The petty bourgeoisie – the solo self-employed – are still rare in most of Central-East Europe. But so far as we can tell, they do not have distinctive views about legitimate earnings save in Poland, where they would pay elite occupations 8% less than others think right. In the West, in contrast, the more numerous and long established petty bourgeoisie seem to have adopted more pro-business values and would pay the elite 13% more.
- Entrepreneurs – private business owners with employees – are also still exceedingly rare in Central-East Europe. Their views do not yet seem to be very distinctive, save perhaps in Hungary where they would pay the elite far more than others think proper.
- Government workers, still numerous in Central-East Europe, are not very distinctive. Only in Hungary do they differ from workers in private firms, preferring to pay the elite 21% more, surprisingly. Throughout the East, they would pay lawyers, doctors and factory owners a little less than others think right. In the West, in contrast, government workers would pay the elite 10 or 11% less than private employees think right.

The fact that all these differences are small – especially compared to the influence of education and occupational status – suggests that norms about legitimate earnings are only in small part a matter of self-interest (Hypothesis 3a) rather than "intellectual" considerations (Hypothesis 3b).

Perceptions of the Actual Level of Inequality

We also measured perceptions of how much occupations are thought *actually* to earn:

> We would like to know what you think people in these jobs *actually* earn . . .
> ≫ Please say how much you think they *usually* earn each year, before taxes.
> ≫ Many people are not exactly sure about this, but your best guess will be close enough.
>
> a. First, *about* how much do you think a skilled worker in a factory earns? $ _____ dollars
>
> etc . . .

A series of other occupations followed, with wording parallel to that for the legitimate occupational earnings questions. Following the methods used in the

analysis of legitimate earnings, we express each respondent's answers to these questions as (the natural log of) the ratio his or her perceptions of elite earnings to his or her perceptions of the actual earnings of ordinary workers (similar to Eqs (1) and (2)).[30]

The growth of income inequality in Central-East Europe is clearly perceived by the public (Fig. 1). The perceived earnings of elite occupations roughly doubled over the decade after the fall of Communism, from around 3 times the income of ordinary workers to 6 times that. The growth was more rapid toward the end of the 1990s than it was in the first few years after the fall of Communism ($t = 15.23$, $p < 0.001$).[31]

Changes in the West followed a very different pattern (Fig. 1). At the end of the 1980s, the Western public perceived the elite in their countries to earn about 5 times as much as ordinary workers – far more than Easterners thought their elite earned. But then inequality in the West was perceived to have declined for the next few years, up to 1995, with the elite's income dropping to less than 4 times ordinary workers'. Then it stabilized or perhaps rose slowly again through the end of the century.

The Gap Between Perceived and Legitimate Earnings

At the end of the Communist era, amount of inequality the Central-East European public thought existed in their societies was about what they thought was morally proper: they felt that the elite ought to earn, and did actually earn, about 3 times as much as ordinary workers (Fig. 1). Then over the next half a dozen years, their feelings about how much the elite ought to earn rose steadily while the elite's actual pay lagged a bit behind. Only in 1996 did norms and reality come once again into agreement. After that the elite's actual income – at least, as perceived by the Central-East European public – grew much more rapidly. By the and of the century, the public thought the elite actually earned about 6 times as much as ordinary workers but felt that they ought to earn only 4 or 5 times as much.

One consequence of these parallel changes is that in many post-Communist societies, there has been little change in public opinion on broad questions about "whether there is too much inequality in our society" or whether the government should have "reducing inequality" as a goal for public policy (e.g. Zaborowski, 1994, 1995).[32] But by the end of the century, the society to which the questions refers is in fact very unequal, much more so than in Communist times, so the meaning of the answers is quite different. There is nothing inconsistent in this: people can perfectly well hold that inequality ought to be higher now than it was in Communist days (for example, that the elite's earnings should increase from 2 times ordinary workers' earnings to 4 times), but simultaneously hold both that

it was about right in Communist times (when it ought to be 2, and actually was 2) and right ten years later (when it ought to be 4 and actually was 4).

In politics, questions of income inequality sometimes concern specific occupations (e.g. cabinet ministers earn too much), sometimes broader groups of occupations (e.g. the elite has too much money) and sometimes constitute a broad global issue about the amount of "inequality in the society as a whole" (corresponding to point 4 in Fig. 4). The links between specific "micro" norms on earnings and the society-wide outcome are complex (Jasso, 1994), as yet poorly understood, although politically important in many nations. We reserve our analysis of them for a future paper. In this first paper, we concentrate on norms and perceptions about the earnings of specific occupations and groups of occupations, important issues in themselves and an essential first step in understanding the role of income inequality in the politics of post-Communist societies.

The gap between perceptions and norms in the West shows a quite different pattern (Fig. 1). At the end of the 1980s, the Western public thought the elite actually earned about 5 times as much as ordinary workers, but that it ought to earn only 3.5 times as much. Over the next few years, the public thought the elite's income actually declined, from 5 to less than 4; but at the same time the public's norms about how much the elite ought to earn also declined, from 3.5 to less than 3. So the gap between reality and public norms did not change greatly. Later, toward the end of the century, the public perceived the elite's income as growing, but also felt that some growth was legitimate. So the gap stayed much the same.

Do Actual Changes in Inequality Explain Normative Changes?

If we assume that the public believes differences in earnings largely reflect productivity – as they do according to classical economic theories about competitive markets – Aristotelian norms then imply a strong link between *perceptions* of occupational earnings and normative *acceptance* of earnings differentials (Hypothesis 2). Thus when people perceive changes in actual income of different occupations, they should endorse corresponding changes in the occupation's legitimate earnings. To see whether this is so, we expand our basic model (Eq. (5)) to include a measure of perceived earnings (Eq. (6)).

Technical Complications

However, the perceived earnings term in Eq. (6) raises some difficult technical issues. For an occupation such as doctor (and other elite occupations) the difficulty is that there is correlated error between estimates of a doctor's legitimate income and perceptions of their actual income. If, for example, one respondent is thinking

of a highly trained, high-tech doctor in a university teaching hospital while another respondent is thinking of a modest, elderly family doctor in a small rural village, there will be a strong, artifactual correlation between perceived and legitimate income simply because of this heterogeneity in the kinds of doctors the two respondents are thinking of. This will bias upward the estimates of the effect of perceived income on legitimate income. Our estimates suggest that this bias is large, perhaps as much as doubling the effect (details available on request).

We therefore omit the perceived income of doctors from the version of Eq. (6) predicting the legitimate earnings of doctors. We also omit the perceived income of lawyers, a closely related professional occupation, and use only the perceived incomes of business occupations (chairman, factory owner) and government occupations (judge, cabinet minister).[33] In effect, we use these as instruments in estimating the perceived income of doctors. Similarly, for business occupations we estimate perceived inequality using only professional and government occupations and for government occupations, we use only business and professionals.

Consequences of Changes in Perceived Inequality

The evidence that perceptions of occupational earnings shape normative acceptance of earnings differentials is strong (Table 4, panel 2). Indeed, their effect is stronger than any other influence in our model. These results imply that if marketization increases an elite job's pay by $1000, then that job's legitimate pay will rise by roughly $500. This rise is largest for factory owner and judge, around $700, and smallest for doctors, around $300.

These results are consistent with other evidence from a number of Central-East European nations using different measurement and methods (Alwin et al., 1995; Arts et al., 1995). They are also consistent with Hypothesis 2.

Changes in perceived inequality probably explain most, but not all, of the increase in legitimate inequality in Central-East Europe since the fall of Communism. However, the results vary considerably from occupation to occupation, and the technical complications are serious, so no unequivocal conclusion is warranted.[34]

- For corporation chairman, the impact of time drops from 0.46 (Table 4, panel 1, row 1) to 0.30 (panel 2, row 1). This suggests that about a third of its effect is due to changes in perceived inequality.[35]
- For lawyer, judge, and cabinet minister the impact of time drops even more sharply, suggesting that 70 or 80% of time's effect is due to changes in perceived inequality. And for factory owner, all of the effect seems to be due to changes in perceived inequality.

- For doctors the small time effect, 13%, is more than accounted for by changes in perceived inequality. Central-East Europeans seem to think that doctors' pay should fall about 6% further behind the pay of other elite occupations.

These results are consistent with Hypotheses 2.

Rejected Alternative Theories

Our results are inconsistent with the predictions of a number of other theories and therefore argue against these theories.

- *Egalitarianism*. The strict egalitarian rejection of any inequality whatsoever is clearly not shared by ordinary people in Central-East Europe. They did not hold completely egalitarian views even in the past – despite the ideological egalitarianism of Communism, its sustained propaganda for equality, and very low levels of actual inequality in Communist society – even though they were more egalitarian than most Westerners. Even less do they hold such views in the present.
- *Enlightenment*. The general tenor of change in Central-East Europe since the fall of Communism is certainly not toward the liberal and egalitarian ideals of the enlightenment. Whether this is one symptom the beginning of a long term reversal of the trend in economic and welfare areas, or is only a temporary reversal in the general liberal trend, itself to be reversed in a decade to two, is not clear from our data.
- *Existential Theories*. Our results are not consistent with the existential argument that whatever is factually the case for a long time comes to be accepted normatively and remains accepted for even a longer time. That argument implies that the egalitarian legacy of 40 years of Communism would change only gradually. Yet in fact there was no gradual, long term decline in egalitarian views, but rather a sudden, dramatic shift.

CONCLUSION

Our data suggest that the transition from a Communist command economy led the public abruptly to change its view about inequality, at least in the larger Central-East European nations and most, but not all, of the smaller nations. So far as we can judge from the Polish and Hungarian data, the Central-East European public held strongly egalitarian norms up to the last days of Communism. But within two or three years of its fall, amidst the first tentative steps toward a market economy, they

seem to have shifted far toward the much less egalitarian norms found in the West. And as free markets developed further, ideals continued to change. Just a decade later, at the end of the 20th century, Central-East Europeans accept substantially more income inequality than most Westerners think right.

Much more speculatively, our argument leads to a prediction about future trends in attitudes toward inequality in Central-East Europe. Our argument assumes that Central-East Europeans are fundamentally similar to Westerners, so that differences in their norms about inequality are just a reflection of their different circumstances. We assume that the present objectively high level of inequality reflects the unusual opportunities, and unusual risks, that accompany the disintegration of the command economy and the emergence of a new, untried, but potentially much more productive market economy. These opportunities and risks mean that the differences between good and bad economic leadership have huge consequences and so imply that the public with think it right to reward them highly. But after this formative period, eventually the market will develop and mature, leaving few unusual opportunities and few unusual risks, eventually converging on the usual Western pattern. Productivity differences will then be little different than in Western economies, and so attitudes about income inequality will, on Aristotelian arguments, gradually become similar to Western patterns. This implies that norms in Central-East Europe will eventually converge on the usual Western pattern. But they will converge from above, not below.

Political Implications

As a market economy gradually sprang up after the fall of Communism, acceptance of income inequality in Poland and Hungary grew rapidly, taking public opinion far from the egalitarian norms of the past. But the actual amount of inequality also seems to have grown rapidly – indeed the public mostly think it grew even more rapidly. So there has been relatively little change in public opinion on broad questions about "whether there is too much inequality in our society" or whether the government should have "reducing inequality" as a goal for public policy.

This has important political implications. In the past, populist anti-inegalitarian political appeals were popular, but not overwhelmingly popular. If public attitudes toward inequality had remained unchanged to the objectively much more inegalitarian present, then the discrepancy between what the public wants and what the reality is would have grown vastly, and the populist appeal might well have become irresistible. That attitudes have shifted so quickly means that there is now much more scope for market-oriented reform than would otherwise have been the case.[36] Thus even in the early stages of economic development when objective

inequalities often grow rapidly and are perceived as such, democracy and inequality can coexist. However, the growing gap between perceived and accepted inequalities – even if the latter grow too – may stimulate some dissatisfaction. This may have contributed to electoral victories of ex-Communist parties in Central-East Europe in the last decade.

NOTES

1. The older nomenclature was "Eastern Europe" but usage is now varied and sometimes conflictual, with both normative and substantive issues involved. We wish to take no views here on these matters, and so adopt the neutral, if ponderous, "Central-East" usage.

2. There was, of course, already inequality in state socialist societies before marketization, some based on political and bureaucratic advantages of a sort that would be undermined by the changes accompanying marketization (e.g. Zhou & Suhomlinova, 2001). That reduces inequality, *ceteris paribus*. But, net of that there was rising earnings inequality in the early 1990s (e.g. Gerber & Hout, 1998).

3. There were similar but much less marked changes from liberalizing policies in the West (Harrison & Bluestone, 1990; Johnson et al., 1995; Smeeding et al., 1993).

4. In the absence of institutional change, the early stages of capitalist economic development probably do not in themselves increase inequality (Kelley & Haller, 2001; Lindert, 2000, the references given there).

5. This acceptance may, however, be limited to a relatively short "extraordinary period" (Balcerowicz, 1994) during which people are willing to sacrifice their short-term interests in favor of long term, possibly altruistic goals (as, for example, fighting Communism and building a new democratic order).

6. The other three are the deductive mode, deriving morality from general principles held to be universally valid; the expressive mode, judging actions as morally right or wrong according to one's immediate emotive reaction; and the consequentialist mode, assessing rights and wrongs by their results.

7. Our data demonstrate sharp changes in the public's perceptions of the earnings of high status jobs. We have no direct evidence that they attribute this to changes in productivity, although that is consistent with the general tenor of public attitudes toward economic transformation and the market economy (e.g., Frentzel-Zagorska & Zagorski, 1993; Zagorski, 1994) and with direct evidence in our Polish, Bulgarian, Finnish and Australian surveys that the public regards private companies as more economically efficient than state-owned ones.

8. Government privilege and bureaucratic favoritism of course remain, although less in Poland and Hungary than in many other post-Communist nations. The decline in the government's influence and the growth of the private sector reduce the bureaucracy's influence compared to the command economy of the past.

9. For related arguments and persuasive data, see Gijsberts (1999, pp. 51–80).

10. This project was supported by a grant from the Australian Research Committee's *Research Infrastructure Equipment and Facilities Scheme* (RIEF) to the Melbourne Institute of Applied Economic and Social Research, University of Melbourne (Dawkins et al., 2000).

11. The Drafting Committee for all three of these modules was chaired by M. D. R. Evans and one of us (Kelley).

12. References are given only to the most recent survey, usually 1999. Details are in the references.

13. Full citations are given only for the latest survey. The Finish survey, available only for one time period, was not used in this analysis.

14. Earlier surveys included "farm laborer," which is a useful addition, but it is not available in the 1999 round of surveys. In the interests of comparability over time, we therefore omit it.

15. The phrases in brackets varied to reflect local nomenclature. For example, in the USA judge was "judge in the Supreme Court" (the highest U.S. court) while in Australia it was "judge in the High Court" (Australia's highest court).

16. We use this rather than a constant that is the same for all respondents – for example, the society-wide mean income of unskilled workers used in previous analyses of these data by Kelley and Evans (1993).

17. In Poland and Hungary in the Communist era, and probably throughout Central-East Europe, the earnings thought proper for doctors were less than in Western nations. This is a long standing difference. Doctors, professors and similar professional occupations not involved in the production of physical goods were treated as a pure cost to the economy in the Communist's system of national accounts (like welfare transfers), not counted as a valuable service, much less as investment; and their actual pay was abysmal. Routine while collar jobs were also less valued than in capitalist societies and skilled workers more highly valued (Kraus & Hodge, 1987).

18. Our model assumes that perceptions influence norms, rather than the other way around. This follows theory and the usual models (e.g. Homans, 1974; Kluegel et al., 1995). However the opposite causal order could be argued (Headey, 1991). The dramatic change in perceptions of inequality following the fall of Communism described later in this paper, and found in other studies on many other aspects of inequality (e.g. Zaborowski, 1995), combined with the only modest shift in norms in the same period, is more consistent with our assumption than with the opposite.

19. OLS estimates from a pooled model using Eq. (4) with the addition of an East European dummy variable gives $t = 19.9$ for chairman; $t = 28.6$ for doctor and $t = 5.3$ for cabinet minister, all significant at $p < 0.001$. However OLS underestimates the standard error (Eastern Europe is a country-level rather than individual level variable) and so overestimates the t-values.

20. For a different view see Listhaug and Aalberg (1999).

21. See also Rehakova (1997).

22. For other analyses of attitudes to inequality in Australia, see Austen (1999); Borland (1999); Evans and Kelley (2002); Headey (1991); and Kelley and Evans (1993).

23. Based on Eq. (5), which allows for curvilinear effects by including a time quadratic.

24. Based on Eq. (5) estimated for Poland alone, using six surveys with 8,041 cases. The corresponding estimate for Hungary is based on three surveys with TEXT MISSING ??? **Pl. check for missing text.**

25. Based on Eq. (5) estimated for Western nations only, with 32 surveys and 25,102 cases.

26. There is a lively debate about just how much of a transition to a market economy and how much of a change in living standards the end of Communism brought to Bulgaria, in part because there are continuing debates about the degree to which GNP and other living-

standards measures were inflated towards the end of Communism. If so, then the actual or anticipated gains in living standards associated with marketization that are legitimating in equality in the other countries might be absent there – not that the causal process is different, but that the level of marketization is so low it has not generated any legitimation.

27. Viz a difference of $16 - 9 = 7$ years of education, times the effect of education: $\exp(7 \times 0.03) = 1.23 = 23\%$ more (Table 3, column 3).

28. Indeed, the Western evidence suggests that the well educated are if anything *less* favorable to inequality than poorly educated Westerners in comparable jobs (Table 3, column 11).

29. When the age difference was first discovered in data for a single point at time, it seemed likely to be reflecting a secular trend toward more equalitarian attitudes (Kelley & Evans, 1993; Kluegel et al., 1995). Our multi-time period data rule out that important possibility.

30. How accurate these perceptions are, especially in the unsettled economies of Central-Eastern Europe, is debatable. Our impression is that they are, at least in aggregate, reasonably accurate. In particular, they do not vary much according to respondents' own social characteristics, thus behaving more like facts than values. But whether or not these questions fully reflect reality, they are still real in their consequences.

31. Estimated from a model analogous to Eq. (5), based on 14,538 cases.

32. Our results are based on standard questions about the earnings of specific occupations which are widely in the social justice-equity-legitimation literature (e.g. Kelley & Evans, 1993; Kluegel et al., 1995; Zentralarchiv, 1989, 1994). They do not directly ask about inequality in the society as a whole but instead build up a picture of the whole as the sum of many concrete, specific micro level parts. A different approach to inequality, common in political contexts, is to ask broad global questions about the amount of "inequality in the society as a whole."

33. Measured by an additive scale analogous to Eq. (3).

34. Sensitivity tests with alternate measurement of the perceptions variables are consistent in showing that perceptions have a very strong effect on norms. However, the size of the remaining time effect is sensitive to measurement decisions.

35. Viz $(0.46-0.30)/0.46 = 36\%$.

36. Moreover, a good case can be made that attitudes to inequality shape attitudes to many other political policies that can serve as a means of reducing inequality, for example views on unemployment policy or gov TEXT MISSING ???

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APPENDIX: MEASUREMENT

The Class-Status-Power Model

Objective class is measured by Kelley's extension of the Blau-Duncan model to include ownership and authority (Kelley, 1992, pp. 23–34; Kelley & Evans, 1995; Robinson & Kelley, 1979). Details:

Ownership and Control Aspects of Class:

Petty Bourgeoisie are defined as self-employed without employees; they are scored 1 and all others zero.

Entrepreneurs (capitalists in Marx's class scheme) are defined as self-employed with employees. Most, of course, run very small businesses.

Supervisory authority is scored 1 for those who supervise others and zero for everyone else.

Government employees are coded 1 and others 0.

SES Aspects of Class

Education is years of education. There are many arguments over how best to measure education, perhaps especially in the Eastern European context. Years of education has the great advantage of being a single information-packed measure which should only be set aside in favour of multiple categorical indicators if there is empirical evidence that years of education is not performing well – the traditional Occam's Razor criterion that

the simpler is to be preferred to the complex unless the simpler can be demonstrated not to work. In our context, if years of education were not an appropriate measure in Central-Eastern Europe, then that should show up empirically as weaker correlations between education and dependent variables in Central-East Europe than in the West. But actually, the correlations are *larger* in Central-East Europe than in the West (Table 1). We therefore conclude that years of education is a suitable measure of education for this analysis. It is possible that expanded measurement of education including such variables as educational track and academic performance would add to the variance explained, but that possibility cannot be pursued here as they are not in these databases.

Occupation refers to present occupation for those currently employed, or to past occupation for those not now employed. Preliminary analysis showed that including a "no occupation" dummy variable in the analysis made little difference to the substantive results and so it was, for simplicity, omitted.

In most surveys, occupations were initially coded into the 4 digit International Standard Classification of Occupations (International Labor Office, 1968 or 1988) with a few local extensions. In some surveys, a standard 3 digit (or better) census code was used. We then recoded occupations into the 14 categories of Treiman's (1977, pp. 203–208) International Standard Classification of Occupations and thence into Kelley's (1990, pp. 344–346) Worldwide Status Scores, which are conceptually similar to Duncan's SEI scores.

Family Income is measured in local currency, expressed as a ratio of the average income of full-time blue collar workers (for comparability between nations).

These various dimensions are not sufficiently correlated to justify combining them into a single indicator, as categorical schemes implicitly assume (Kelley, 1992, pp. 23–34; Kelley & Evans, 1995). Moreover different dimensions of class are influential in different zones of social life, so combining them into one coarse categorical indicator would lose important information, and would prevent one from discovering which aspect matter more in the legitimation of inequality. Accordingly, we prefer to measure class as a set of variables rather than shoe-horning them into an ill-fitting categorical schema.

Measurement of Other Variables

Male is scored 1 for men, 0 for women.

Age is measured in years.

Subjective class is a 10 category self-placement, with one end labelled "top" and the other "bottom" (e.g. Kelley & Evans, 1995). The word "class" is deliberately because of its party political overtones in many European nations (Evans et al., 1992).

Uncited reference

References cited in the text must appear in the reference list; conversely, each entry in the reference list must be cited in the text… The author must make certain that each source referenced appears in both places and that the text citation and reference list entry are identical in spelling and year.

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