

M.D.R. EVANS
University of Nevada

JONATHAN KELLEY
International Survey Center and University of Nevada

Education Legitimizes Income Inequality: Normative Beliefs in Early Post-Communist and Market-oriented Nations

Abstract: Using data from large, representative national samples in Poland, Hungary, Bulgaria, Australia, Finland, and the Netherlands, we examine moral norms about just rewards for education. Comparing these norms in East Central Europe shortly after Communism—where the dominant ideology was egalitarian, schooling free, rewards to education modest, and alternative investments absent—and in market-oriented societies where the opposite held, provides insight into the influence of institutional arrangements on moral norms. We find that the publics in all these countries favor large rewards for education (which legitimates substantial income inequality), showing that these moral norms are resilient to institutional arrangements. These results align with Aristotle’s claim that people believe job performance merits reward because it makes valuable contributions. They undermine alternative theories: credentialism, radical egalitarianism, and the hegemonic power of dominant political elites. These results also undermine economists’ human capital arguments insofar as they are seen as a moral justification for income inequality.

Keywords: education, human capital, pay equity, income justice, legitimate earnings, East Central Europe, Communism.

Introduction

Income inequality has seized the sociological imagination, yet again. Researchers wrestle with complex evidence to assess the potential role of income inequality in a wide variety of social dysfunctions (Babones 2008; Beckfield 2004; Wilkinson and Pickett 2009; Zagórski, Evans, Kelley, and Piotrowska 2014). An influential analysis of capital concentration (Piketty 2014) has inflamed concern both within the discipline and more broadly. A growing tradition of empirical research on the public’s norms about income distribution has labeled the topic “social justice,” “equity,” or the “legitimation of inequality” (Berger, Zelditch, Anderson, and Cohen 1972; Gijssberts 2002; Jasso 1980; Kelley and Evans 1993; Kluegel, Mason, and Wegener 1995; Moore 1991; Shepelak and Alwin 1986). These are key issues in fields ranging from equity theory to political sociology, as well as in more pragmatic matters of job evaluation, pay administration, and public policy (Della Torre, Pelagatti, and Solari 2014; Dornstein 1991: Ch. 1; Dulebohn and Werling 2007; Marshall, Swift, Routh, and Burgoyne 1999; Milkovich, Newman, and Gerhart 2013). Indeed, non-market approaches to pay, for example “comparable worth,” all assume that people agree

on how to distribute pay fairly. This concern is not new. Instead, around the world and recurrently throughout history, the moral evaluation of income inequality has attracted philosophical discussion, prescriptive argument, and social science analysis (Aristotle c. 334–323 BC [1985]; Rawls 1971; Sen 1973).

This paper investigates a key thread woven into the citizenry's moral judgments about income inequality: Which underlying principles does the general public use to judge how large earnings differences should be and how widely shared are these principles? Self-interest, politics and social structure provide part of the answer (Austen 2002; Castillo 2011; Gijssberts 2002; Hadler 2005; Headey 1991; Kelley and Evans 1993; Svallfors 1993; Zagórski 1994), but much remains unexplained. Using data from large, representative national samples in six nations, we focus on a missing link: moral norms about the ideal pay for different educational attainments.

More specifically we use these data to assess whether higher pay for more educated people was widely accepted across a huge institutional divide. During Communism's 40-year reign, education received much lower pay than in the West (Flanagan 1998; Machonin and Tucek 1994; Mateju and Lim 1995; van de Werfhorst 2011; Verhoeven, Jansen, and Dessens 2005; Zagórski and Domański 1996) and the white-collar jobs held by the 'intelligentsia' were downgraded (Kraus and Hodge 1987). Did these stark differences depress, or even suppress, the public's legitimation of income rewards to education? A comparative cross-national perspective is key in allowing us to discern universal patterns that hold across societies (Kalleberg 1988; Kohn, Slomczynski, Janicka, Khmelko, Mach, Pagniotta, Zaborowski, Gutierrez, and Heyman 1997), to assess institutionally patterned differences across societies, and to distinguish such patterns from the idiosyncrasies of a single nation. The paper focuses on one aspect of the culture of inequality—the size of legitimate income rewards to education in the minds of the general public—and on assessing the extent to which that differed between East Central Europe before or shortly after the end of Communism and advanced, market-oriented societies.

What This Paper Is and Is Not

This paper *is not* an analysis of these six societies in the present day or of how they have changed in the nearly 3 decades after 1989. Instead, we are getting as close as possible to the Communist period, so that most of our respondents had spent most of their lives in the world of Communist ideology and institutional arrangements.

Theory

Aristotle's *Nicomachean Ethics* argues that the public believes that rewards ought to reflect performance. According to this line of reasoning, the populace will hold that people whose skill, effort or ability enable them to produce more or higher quality goods have a moral right to be rewarded in proportion (Deutsch 1975; Jasso 1980). Hence, equal pay for unequal contributions is unjust (Table 1, column 1). On this logic, all causes of performance

differences are equally entitled to reward.¹ Notice that this argument concerns attitudes and values about the legitimate size of rewards, it does not concern whether a system actually embodies this principle.

This paper focuses on one of the most important traits relevant to performance in the modern world: Education. Our argument, following Aristotle's emphasis on consensus about the legitimacy of rewarding performance, is that people will believe that education ought to be rewarded in proportion to its (substantial) effects on productivity (Table 1, Row 1: Basic Principle), that the world should be meritocratic (Deutsch 1975; Duru-Bellat and Tenret 2012; Kunovich and Slomczynski 2007; Marks 2010; Reynolds and Xian 2014; Smith and Mateju 2012). The thesis is that ordinary people's judgments about just rewards to education will emphasize "equity" over "equality" or "need," although the other principles of allocation may be endorsed for other domains (Deutsch 1975; Evans, Kelley, and Peoples 2010; Reeskens and Oorschot 2013; Evans, Peoples, and Kelley 2014). Objectively, in industrial societies a year of education increases performance by something like 5% to 15% (e.g. Murphy and Welch 1994; Psacharopoulos 1973; Psacharopoulos and Patrinos 2004).

Thus, if people endorse the equity approach, the ideal income rewards to a university degree compared to secondary school completion would be something between 15% to 75% (viz, a 3-year course times 5% per year at the low end, through a 5-year course times 15% per year at the high), with the range 30% to 70% the most plausible. This variability and uncertainty implies that people's subjective perceptions of education's effect on different workers' contributions, and hence their norms about legitimate rewards to education, will also vary. Because the Aristotelian argument is that norms endorsing meritocracy are consensual, these variations should *not* be systematically related to class or demographic position, except to the limited extent that class and demographic position bias people's perceptions of the links between education and performance (Table 1, Rows 2 and 4, H1 and H2).

Much the same patterns should hold in all advanced societies on the Aristotelian thesis, since work is organized in much the same way in all, education is similar, and hence performance differences also broadly similar (e.g. Ganzeboom, Luijkx and Treiman 1989; Treiman 1977; Wegener 1992: 262–264; van de Werfhorst 2011; but see Wong 1990).

Importantly, the training in East Central European schools and universities during the Communist period (when our respondents were educated) was similar to that in Western market economies, and of comparable, sometimes better, quality (Beirne and Campos 2007; Oesch 2013; Silova and Eklof 2013). Therefore, education should enhance productivity just as much in the East as in the West.

Then equity theory proposes that legitimate income rewards—not the actual rewards, but the ones people think are *morally* right—were as high in Communist societies as in market-oriented societies (Table 1, Column 1). For example, if university graduates in the West were, say, twice as productive as workers with primary education, they would be

¹ In addition to education, these include skill in supervision and the conduct of complex and responsible tasks; effort; innate differences in ability; and other things. On these arguments, it does not matter how productive characteristics are acquired, whether by luck, inheritance, or lengthy training: All legitimate an increase in income proportional to the increased performance. This paper is only a first step toward analyzing these issues.

Table 1
Theories About the Legitimate Returns to Education: Hypotheses Derived from Preferred Theories and Implications of Some Rejected Alternative Theories
 [Predictions inconsistent with the evidence presented later are shown in square brackets and *bold italics*.]

Legitimate returns to education:	Preferred theories and hypotheses they imply		Rejected alternative theories and hypotheses they imply			
	Equity: Performance justifies pay, meritocracy, existential ^a	Education (also ability, diligence, and any other productive trait)	Folk human capital ^b	Credentialism ^c	Radical egalitarian ^d	Hegemony, dominant ideology ^e
Basic principle: 1. Traits rewarded			Investments in education	Education and culture	None	As dominant elite chooses
Predictions:						
2. Size of returns in a market economy	H1: Large, because education is productive	H1: Large, because education is productive	Large, same as physical capital	Large, market elite self-interested	[Zero]	Large, market elite values education
3. Class differences in returns thought proper in a market economy	H2: Few or none (consensual)	H2: Few or none (consensual)	Few or none (consensual)	[Strong, upper class accept & lower reject]	None (consensual)	None, all classes accept
4. Size of returns in a Communist economy	H3: Large, education is productive under Communism as well as in market economies	H3: Large, education is productive under Communism as well as in market economies	[Low (little or no investment)]	[Zero, Communist elite egalitarian]	[Zero]	[Zero, Communist elite egalitarian]
5. Class differences in returns thought proper in a Communist economy	H4: Few or none (consensual)	H4: Few or none (consensual)	Few or none (consensual)	None, even upper class reject	None (consensual)	None, all classes reject

^a Aristotle, *Nicomachean Ethics*. Also Parsons (1970) and decades of research in sociology and experimental social psychology supporting “equity theory” claim that people’s sense of fairness or justice entails rewarding “inputs” (e.g. Berger et al. 1973; Homans 1974; Walster, Walster and Berscheid 1978).

^b The economic version of human capital theory is well-known (especially Becker 1964; Mincer 1958; Schultz 1980, but more generally Adam Smith 1776, and neo-classical economics more broadly). The potential folk ideology arising from the popularity of this theory simplifies to the key “story” that rewards should reflect investments.

^c Bourdieu (1977), Collins (1971, 1979), Bills (2003). Employers and the elite choose which credentials to reward.

^d Early Christianity, Rawls 1971, Sen 1973.

^e Gramsci (1971), Kluegel and Smith (1986: Ch. 2).

around twice as productive in the East as well. That all this is on a lower base is irrelevant, since we focus only on their productivity *relative* to others in the same nation. Hence, on performance grounds, education should offer just as legitimate a basis for income inequality in the Early Post-Communist countries as in the market-oriented countries (Table 1, Rows 1 and 3, H1 and H3).

Competing Theories

(1) If people adhere to “Folk Human Capital” theory, they will hold that pay should reflect the person’s investment and hence additional education should *not* get extra pay in formerly Communist economies where alternative investments had been few, tuition free, and comfortable financial support provided (Table 1, column 2); (2) Credentialism implies that class conflict sharply differentiates the citizenry’s ideals in market-oriented societies, but little if at all in East Central Europe where the dominant ideology of egalitarianism held at least moderately across classes, leading to low average ideals and little difference by social background (Table 1, column 3); (3) Radical Egalitarian theory positing a universal longing for equality so that denizens of all societies prefer little or no reward to extended study (Table 1, column 4); (4) Communist elites strove to instill egalitarian culture in their mass publics (Mateju and Rehakova 1996); and they had pervasive control over social and economic institutions. Hegemony theory thus implies that the successfully inculcated egalitarian culture will lead ordinary people in Communist and Early Post-Communist to endorse little or no extra income for the highly educated, whereas the successfully inculcated culture of the market-oriented societies will lead ordinary people to see as legitimate and desirable substantial extra income for the highly educated (Table 1, column 5).

Because the meritocracy/equity family of theories (Table 1, column 1) is, as we will see, the only one consistent with the results, we summarize the others in Table 1 as “Rejected alternatives” and do not discuss them at length here. We turn now to the evidence.

Data and Methods

This paper treats Communism in East-Central Europe as a natural experiment. This logic requires societies at or near the Communist era (treatment) compared to similar non-Communist societies (control). The ideal would be shortly before East Central European Communism’s (unexpected) end, as is possible for certain related questions in Poland (e.g. Kołczyńska and Merry 2016; Peoples 2011), but little data exist for our questions. So far as we are aware, the only closely comparable Communist era data available for the issue at hand is a single question from the 1987–88 Wave 1 of Słomczynski’s splendid POLPAN survey (Słomczynski et al. 2008) which we discuss below; it confirms our results. Research on many topics related to inequality attitudes for which data is lacking during Communism, takes Early Post-Communist data as imperfect, but nonetheless useful, proxy information about the Communist era and its early legacy (Brezna 2010; Gerber and Hout 1995; Gijberts 2002; Haller and Richter 1994; Kelley and Sikora 1999; Sikora 2005; Verwiebe and

Wegener 2000). The soundness of this approach is bolstered by the finding from one of the few Communist-era surveys with cross-nationally comparable data on inequality attitudes that the strong egalitarianism of Hungarians in 1987 was still evident in the 1990s (Simkus and Robert 1995) and that perceptions about inequality had changed from 1987 to the early 1990s, but inequality ideals had not (Evans and Kelley 2017; see also Peoples 2011 on value continuity in Poland, 1988–1995, although this is not true of all inequality ideals, see Mateju and Vlachova 1998, Kelley and Zagorski 2005). The proxy approach is also supported by myriad studies documenting a strong legacy in the attitudes and values of cohorts socialized in the Communist era (Breznau 2010; Horvat and Evans 2011; Kelley and Evans 2017b; Sikora 2005; Słomczyński and Wilk 2002; Wegener and Liebig 1995). Thus, our proxy approach has a solid foundation in prior research, but intrinsically involves an assumption (as does all this prior research) that attitudes and values in this domain, inculcated over decades, did not change too rapidly. Later data would be worse, and, absent a time machine, the evidence from the Early Post-Communist period is valuable, albeit inherently provisional.

We analyze fourteen surveys from six nations shortly after the end of Communism in East-Central Europe; all are large, representative national samples. The data are from the second round of the ISEA: International Survey of Economic Attitudes (details in Kelley, Zagorski, Evans, Ervasti, Ganzeboom, Gijsberts, Kangas, Robert, and Zlatkov 1998). The crucial Eastern European data were collected in the 1990s not long after the fall of Communism and well before the benefits of the market economy became evident: Hungary in 1992 (Robert et al. 1993), Poland in 1991, 1994 and 1997 (Zagórski and Kolarska-Bobińska 1996, 1998), and Bulgaria in 1997 (Zlatkov et al. 1998). Western data are mainly from the same period: Finland in 1994 (Kangas and Ervasti 1995), the Netherlands in 1998 (Nieuwbeerta, Gijsberts and Ganzeboom 1998), and Australia (six surveys between 1987 and 2002, Kelley and Evans 1994). $N = 13,046$. Our multivariate analyses are based on about half that number, because only labor force participants were asked about occupation and ownership.

Attitude and value questions were identically in all nations, with minor variations in introductory and explanatory materials to cater for local circumstances and linguistic usage. Demographic and background questions were collected to a high standard of accuracy using questions appropriate to local circumstances and recoded into comparable measures following ISSP definitions (Sikora 2003). Details are in the online appendix.

Comparison of frequency distributions of demographic variables with national Census data confirms that the ISEA data are representative national samples (Sikora 1997). Correlations among demographic items in ISEA data echo those found in prior research on other datasets (Breznau 2010; Sikora 2005). Further details on the sampling are in (Sikora 2005: 241).

Measurement

Response/Dependent Variable: Legitimate Rewards to Education

The key questions about legitimate rewards to education were modeled after long established questions on legitimate occupational earnings, e.g. in the ISSP (Kelley and Evans

1993; Sarapata 1963; Verba and Orren 1985: Chapter 8) and, like them, are open ended, inviting respondents to nominate any income they feel is morally right for specific educational attainments: secondary school completion, university (undergraduate) completion, and PhD. According to local custom, annual, monthly, or weekly income was asked, and in some countries after-tax rather than before-tax income. Comparisons would be difficult in the original units because the answers are in different local currencies and for Poland (where we have three surveys) the value of money changed dramatically over time. We therefore express each respondent's nominated ideal income for a specific educational attainment relative to that respondent's perceived income of semi-skilled workers, broadly following the methods of (Kelley and Zagorski 2005). Using locally appropriate introductions and terminology, we asked:²

Nowadays in [Australia/Poland/...] workers with a primary school education earn about [\$22,000] a year by the time they are 30 or 35 years old. Now please think about those who spend longer in school...

(b) How much do you think a 30 year old who has finished secondary school should earn?
 \$ per year

(c) How about a typical university graduate who did a [three year/ Bachelor of Arts] degree course?
 \$ per year

(d) How about someone who has completed a doctoral degree?
 \$ per year

Predictor Variables

These are measured conventionally following Evans and Kelley (2004). We measure objective class by extending the Blau-Duncan model to ownership and authority (Halaby and Weakliem 1993; Kelley 1990a, 1990b; Robinson and Kelley 1979). *Occupational status* is measured in *Worldwide Status Scores* (Kelley 1990b: 350–356). Ownership and Control are a set of dichotomous variables: (1) Business owners are self-employed with paid employees (1 or 0); (2) the *Solo self-employed* or petty bourgeoisie are self-employed without employees (1 or 0); (3) Supervisory Authority is scored 1 for those who supervise others at work and zero otherwise. *Family Income* is in local currency, expressed as a ratio to the average income of full-time blue collar families (for comparability between nations). As further control variables, we also include age (in years), male (1 = male, 0 = female), education (in years).

These are important control variables, because, prior research on other inequality attitudes finds that background variables are sometimes significant, although their effect sizes are generally small (e.g. Evans and Kelley 2017). Details are in the online appendix.

² Australian university courses are varied and public understanding of durations is limited, so the questionnaire provided more descriptive detail, specifying a “university graduate who did a three year degree course” in part (c) and “went on another three years to take a higher degree” for part (d), those being the most common lengths for BAs and PhDs.

Methods

The methods used here range from the frequency distributions to a variance-components multi-level model estimated by GLS with random intercepts by society and fixed effects across societies (Hox 1995); a corresponding mixed-effects multi-level regression produces identical results. We have large samples and the predictors have small to moderate correlations, so multicollinearity is not an issue, an impression confirmed by variance inflation factors well under 10 for each of the predictors when estimated by OLS.

Results

Baseline: Legitimate Rewards in the West

Western respondents share a near-consensus that people who complete secondary school should earn about 40% more than the unskilled wage (Figure 1, light dashed line). In more detail, a handful of the citizenry, about 5 percent, take the radically egalitarian view that people who completed secondary school should earn no more than the unskilled wage. Everyone else believes that they should earn more, mostly between 20% and 80% more, with the mean around 40%. Economists could point out that this is roughly the marginal product of a worker with secondary school and is also roughly the return to be expected from an equally large investment in material capital (e.g. Murphy and Welch 1994; Psacharopoulos 1973); Aristotle might also point out it is roughly what a self-employed person with a secondary school education would produce.

Moving up the educational ladder, university graduates, in the minds of the Western public, should on average earn about twice the unskilled wage (heavy line with long dashes), around half again the ideal earnings for people who left after secondary school. Finally, PhDs should earn about two and a half times the unskilled wage, with more diversity of opinion, especially a small fraction of the populace advocating much higher rewards to PhDs (solid line).

In sum, Western publics see substantial rewards to education as legitimate. These results are consistent with Aristotelian theory's prediction for a market economy (Table 1, Row 2, H1) but also consistent with the predictions of many other theories—folk human capital, hegemonic, and credentialist theories about market economies (Table 1, Row 2). The evidence is clearly contrary only to radical egalitarianism.

Just Educational Rewards in Early Post-Communism

To adjudicate among the theories that are “left standing” by the evidence thus far, let us turn to education in East Central Europe, recalling that, under Communism, incomes were long set by fiat (not the market), where alternative self-employment investments were not possible in the government controlled economy, and where the ruling elites were on the political left, favoring the working class (not the offspring of well-educated, high-status families as is arguably the case in the West).

Figure 1

Pay thought proper for secondary school graduates, university graduates, and PhDs in three Western nations relative to perceived earnings of blue collar workers (“minimum income”).
Western nations pooled

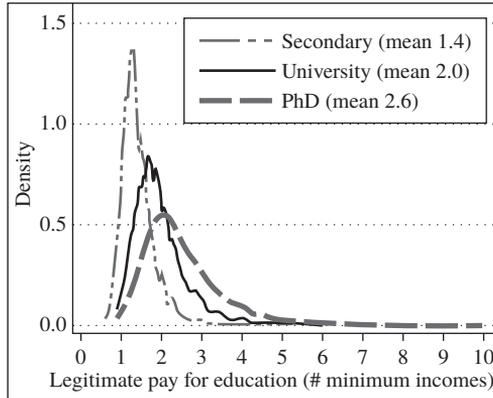
(Australia various years 1987–2002 N = 4760, Finland 1994 N = 860, and the Netherlands 1998 N = 792).
 International Survey of Economic Attitudes, Round 2.

People in Western nations believe education should be rewarded.

For secondary school graduates, near consensus on 40% more than blue-collar workers get.

For university, twice as much, some saying much higher.

For a PhD, over two and one-half times that, with very diverse views, some much higher.



Kernel density estimates, Epanechnikov kernel.

All means are significantly different from 1.0 at $p < .001$

In Bulgaria, Hungary, and Poland in Early Post-Communism, the public felt that people with a secondary school education should earn 70% to 90% more than the minimum income earned by workers with just a primary school education (Figure 2, Panel A, heavy lines). All of these are significantly different from zero at $p < .001$. Thus, like Westerners (light lines), they endorse significant rewards to secondary school. But, according to the post-Communist respondents, the rewards should be even *larger* than Westerners see as legitimate, not smaller (note that the dark lines' shoulders reach further to the right than do the light lines').

Similarly, in all three Early Post-Communist surveys, the citizenry supports substantial rewards to university education, with the legitimate earnings for university graduates being 2.4 to 2.7 times the unskilled wage (Figure 2, Panel B; all significant at $p < .001$). PhDs are also seen as meriting ample reward, with ideal earnings 3.3 to 3.8 times the unskilled wage (Panel C; all significantly different from zero at $p < .001$). These results align with earlier findings for the Czech Republic (Mateju and Rehakova 1996).

Interestingly, it is the elite levels of education (BA and especially PhD) that legitimated strikingly higher rewards in these formerly Communist nations than they do in the West (for example 3.8 minimum incomes for a PhD in Poland versus 2.6 in the West; Figure 2, Panel C).

Thus, despite the legacy of 40 years of Communist egalitarianism, the rewards thought proper by Bulgarians, Hungarians, and Poles were no lower—indeed are higher—than the

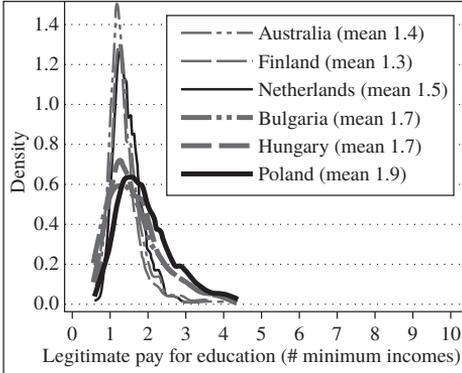
Figure 2

Pay thought proper for secondary school graduates (Panel A), university graduates (Panel B), and PhDs (Panel C) in the West and in Early Post-Communist East-Central Europe

(Bulgaria 1997 N = 791; Hungary 1992 N = 1,110; Poland 1991, 1994 and 1997 N = 4733). International Survey of Economic Attitudes, Round 2.

Panel A. Everyone thinks secondary education should be well rewarded.

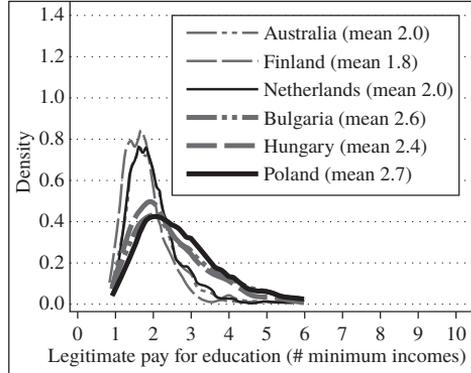
Formerly Communist nations favor slightly higher rewards than the West.



Kernel density estimates, Epanechnikov kernel. All means are significantly different from 1.0 at $p < .001$

Panel B. All believe university education should be well rewarded.

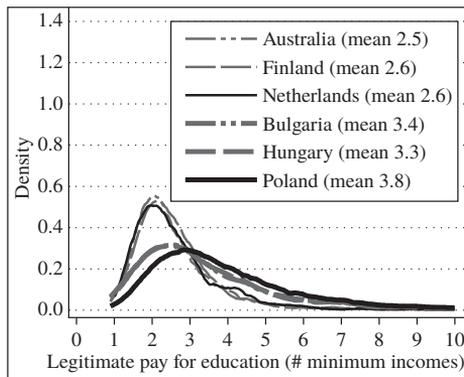
Formerly Communist nations favor higher rewards than the West.



Kernel density estimates, Epanechnikov kernel. All means are significantly different from 1.0 at $p < .001$

Panel C. All believe a PhD should be well rewarded.

Formerly Communist nations favor much higher rewards than the West.



Kernel density estimates, Epanechnikov kernel. All means are significantly different from 1.0 at $p < .001$

ideal rewards endorsed by Australians, Dutch, and Finns. Perhaps our East Central European respondents reacting to violations of meritocracy: Research in Poland during the Communist period discovered a widespread perception that meritocratic norms were systematically violated by the regime (Koralewicz-Zębk 1984), a result echoed elsewhere in East Central Europe in the Early Post-Communist period (Mateju and Rehakova 1996).

We assume that these views, ascertained in surveys only a few years after the fall of communism, reflect what their views were toward the last few decades of the Communist era, not some sudden reaction to the uncertainties and confusions of the early post-Communist era. The vast majority completed their education under Communism, they and their friends and relatives spent years in the labor market under Communism before its sudden (and unexpected) demise. It is only reasonable to think that their views reflect their own history and experience. Moreover, as we will see shortly (Figure 4 below), the same pattern holds for the oldest cohorts, those who came of age under Communism and spent the majority of their working life under Communism, as well as the youngest with only a brief experience of Communism. Additional evidence for Poland in 1987 shows that this pattern held before Communism fell.

The high rewards to education thought legitimate under Communism are consistent with the Aristotelian theory's prediction that legitimate earnings should reflect performance, and hence be no lower in formerly socialist economics than in market economies (Table 1, Row 4, H3). However, the other theories all predict low or zero rewards (Table 1, Row 4): radical egalitarian and credentialist for the usual reasons; hegemonic theories, because the Communist elite was vehemently and forcefully egalitarian; and most importantly folk human capital, because under Communism there were few costs to education and no alternative investments in physical capital. Results for Bulgaria, Hungary, and Poland are clearly inconsistent with all these theories.

Only the Aristotelian claim that meritocracy will be endorsed regardless of institutional arrangements is consistent with this evidence.

Coherent Views

The public's views on the legitimate rewards to education are tightly coherent: Those who think that secondary schooling merits generous rewards generally think that undergraduate and PhD education are worthy of high pay as well. Conversely, those who would favor low rewards for secondary school graduates, tend to favor rather low rewards for workers who complete university and for PhDs. This can be seen in the correlations among the ideal rewards to education items which range from about 0.6 to the middle 0.8's in both formerly Communist countries and in advanced market-oriented countries (Table 2).

Accordingly, we combine the three items measuring legitimate pay according to education into a single additive scale. Details are in the online supplement.

In Western nations, the scale has a mean of around 2. In formerly Communist nations, the mean is 2.5 or just more (Figure 3)—this is of course far higher, and significantly so ($p < .001$)—than the mean near zero predicted by all theories except equity theory stemming from Aristotle (Table 1, Row 4).

The finding that the general public in the formerly Communist societies sees substantial rewards to education as legitimate militates against the folk human capital culture hypothesis (little or no income is forgone) and the hegemony hypothesis (the public rejects this part of the Communist elite-promulgated equalitarian ideology).

Only the Aristotelian hypothesis is consistent with this evidence.

Table 2

Measurement of Legitimate Returns to Education: Correlations, Confirmatory Factor Loadings, and Other Statistics Separately for Formerly Communist Nations (Poland, Hungary, and Bulgaria, pooled) and for Market Economies (Australia, Finland, and the Netherlands, pooled)

	Formerly Communist			Market economies		
	Secondary (1)	University (2)	PhD (3)	Secondary (4)	University (5)	PhD (6)
Panel A: Correlations, legitimate pay for...						
(1&4) Year 12 education	1.00			1.00		
(2&5) University education	.85	1.00		.74	1.00	
(3&6) for a PhD	.70	.86	1.00	.58	.83	1.00
Panel B: Criterion variables						
Father's occupational status	.01	.06	.06	.00	.00	-.03
Male	-.02	-.04	-.04	-.08	-.09	-.10
Age (years)	-.07	-.04	-.01	-.11	-.06	-.05
Education (years)	-.01	.06	.08	-.09	-.08	-.08
Occupational status	-.02	.05	.08	-.09	-.07	-.08
Supervises	-.01	.04	.06	-.04	-.04	-.04
Business owner	.00	.03	.04	-.03	-.04	-.04
Solo self-employed	-.03	-.05	-.07	-.04	-.03	-.02
Family income	.01	.02	.03	-.07	-.06	-.03
Panel C: Descriptive statistics						
Mean	1.87	2.65	3.70	1.65	2.32	3.13
Standard deviation	.74	1.05	1.73	.64	.95	1.56
Panel D: Factor loading						
Fit (RMSEA)		0.08			0.06	
Panel E: Alpha reliability						
(For all 6 nations pooled: .84)	Poland	Hungary	Bulgaria	Australia	Finland	Netherlands
	0.84	0.83	0.86	0.81	0.76	0.81
Panel F: Cases						
	4733	1110	791	4760	860	792

SEM confirmatory factor loading estimated by maximum likelihood, separately for formerly Communist nations and for market economies. N = 2,504 cases with complete information on all variables in formerly Communist nations and N = 3,215 in the West.

Cohort Differences

Importantly, the length of time that people lived under Communism makes little or no difference to their ideals about rewards to education (Figure 4).

Thus, the norms Aristotle described in antiquity seem still to have flourished in Eastern Europe before the rise of Communism, to have prevailed throughout its heyday, and to persist unchanged into the post-Communist world.

Confirmation From Before the Fall of Communism: Poland 1987–88

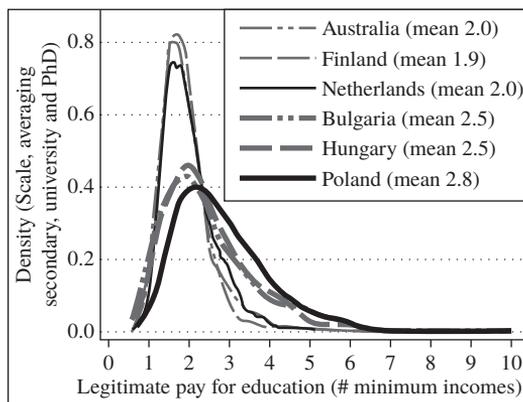
A Communist-era survey with a question about legitimate pay for education reasonably comparable to the ones we are analyzing, the only one of which we are aware, provides confirmation (Figure 5). The survey (Słomczynski et al. 2008) is for Poland in 1987–88 just a year or two before the unexpected fall of Communism. The actual returns to university

Figure 3

Just Rewards to Education (summary scale averaging rewards for secondary school, university, and PhD)
Three formerly Communist nations and three Western nations, various years. International Survey of Economic Attitudes, Round 2.

Legitimate pay for education (averaging secondary, university, and PhD)

Formerly Communist nations favor high rewards, higher than the West.



Kernel density estimates, Epanechnikov kernel.

All means are significantly different from 1.0 at $p < .001$

education at the time were small, about 1.3 minimum incomes as we measure it. Nonetheless a clear majority of Poles, 64%, thought that earnings ought to depend on education. Moreover they thought high rewards proper, an average of 3.2 minimum incomes (this includes those who would not reward education as well as those who would). That is over twice what university graduates were actually paid at the time, and much more than Westerners thought proper, and at least as much as East-Central Europeans thought right a few years after the fall of Communism (compare Figure 2, Panel B).

Thus we suggest that amply rewarding education is an enduring moral norm, not merely economics, nor ideology, nor politics.

Class Differences?

There is little class conflict about the proper rewards to education. Instead, regression analyses show that class differences are unimportant (Table 3). There is variation in ideals about rewards to education, but it has little or no linkage to class position. The only substantial difference is that formerly Communist nations favor higher rewards to education (first two columns).

Education and Pay Inequality

However valuable education may be to society, educated people rarely receive a direct stipend from grateful fellow citizens. Instead they get a job based largely on the skills conferred by their education, and are paid for their work in that job and for their skills relevant to that job. The nexus between education and job is thus crucial: How do moral norms

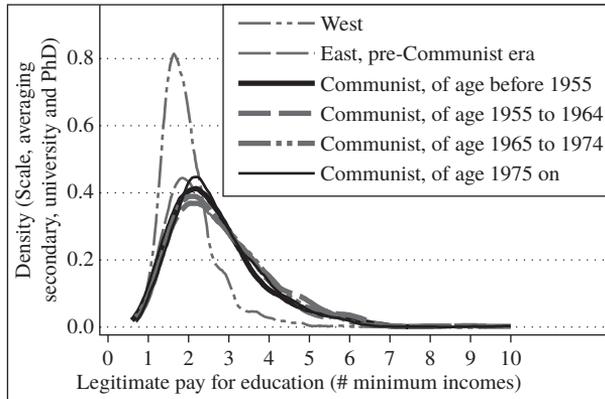
Figure 4

Just Rewards to Education Among Older Cohorts Coming of Age and Living Most of Their Adult Lives Under Communism and, for Contrast, Both Younger Cohorts Living Less of Their Lives Under Communism and Western Nations

Three formerly Communist nations (Poland, Hungary, and Bulgaria) pooled. International Survey of Economic Attitudes, Round 2.

Legitimate pay for education for those living long under Communism

Those spending most of their lives under Communism, where schooling was free and actual returns to education modest, still favor high rewards for education, higher than in the West and no different from more recent cohorts.



Kernel density estimates, Epanechnikov kernel. All means are significantly different from 1.0 at $p < .001$

$N = 6412$ for the West; 1295, 796, 1068, 1663 and 1550 for the East.

about the legitimate reward for education structure moral norms about the legitimate pay of occupations—the main source of society’s income inequality and the focus of a large and flourishing research literature.

In short, views about the legitimate rewards to education strongly affect the pay people think legitimate for high status occupations—professionals, elite government officials, and the economic elite alike—as compared to more ordinary occupations (Table 4; details are in the online appendix). Standardized effects are large, around .20 to .35, net of a wide range of class and demographic factors. Those who would reward education generously (in the top 10% on that) advocate paying elite occupations some 25% to 35% more than those who would reward education meagerly (in the bottom 10% on that).

Thus, views about education are a major force legitimating income inequality, both in the East and in the West.

Discussion

Summary: Distribution and Determinants of Ideal Rewards to Education

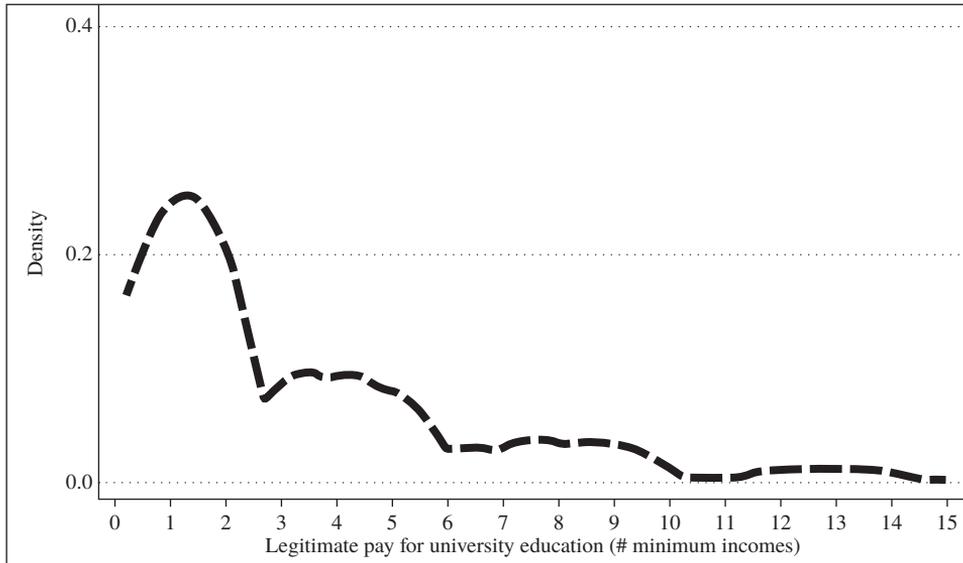
Most people believe that education merits higher pay: In all six countries and in every social group examined, there is widespread acceptance of incorporating meritocracy into

Figure 5

Communist era Poland: Pay Thought Proper for University Graduates
Data from the POLPAN survey Wave 1, 1987–88; N = 1443 (Slomczyński et al. 2008).

Communist era Poland: Legitimate pay for university education

In 1987–88 before the unexpected fall of Communism and when the actual returns to education were still small, Poles nonetheless on average favored high rewards for university education (mean 3.2 minimum incomes).



Kernel density estimates, bandwidth = 0.75. Mean significantly different from 1.0 at $p < .001$

N = 1443 using nationally representative data from the excellent 1987–88 POLPAN survey (Slomczyński et al. 2008). Question: “Do you think that employees with higher education should earn more than employees without such education or earnings should preferably not depend on education? ... How much more on average...?” (answers in zlotys).

pay determination. However simultaneously, there is substantial disagreement about the legitimate *magnitude* of educational differences in pay.

In more detail, people believe that secondary school (year 12) graduates should on average get 60% to 70% more than workers with just a primary school education—rather less in the West and rather more in formerly Communist nations. University graduates ought to get two times (in the West) or two and a half times (in the East) as much as those with only a primary school education. And PhDs should get two and a half (West) or three times (East) as much.

Thus Bulgarians, Hungarians, and Poles—including Poles still living under Communism in 1987—endorse high rewards to education. Indeed, they endorse income rewards to education even higher than Australians, Dutch, and Finns think proper.

There are few class differences in the educational rewards people think proper. Those in high ranking occupations and those in low, supervisors and those supervised, boss and worker, those who identify with the higher classes and those who identify with the lower, all have similar views. Only the solo self-employed (Marx’s *petite bourgeoisie*) advocate fractionally lower pay, at least in several nations.

Table 3

Effect of Background and Socio-demographic Variables on Pay Thought Legitimate for Education
(natural log of year 12, university, and PhD, averaged). Standardized partial regression coefficients. Estimates from random effects multi-level models estimated by GLS (columns 1 and 2) or by OLS (other columns).^a

	All nations	All nations, Communist era times ^b	Poland	Hungary	Bulgaria	Australia	Finland	Netherlands
Fathers occupation	0.03*	0.00	0.06*	-0.03	0.01	0.03	0.03	0.05
Male	-0.06***	-0.07**	-0.01	-0.04	-0.08	-0.12***	-0.09*	-0.01
Age (years)	0.00	-0.03	0.06*	-0.01	-0.07	-0.07**	0.01	0.07
Education (years)	-0.01	-0.02	0.09*	0.08	-0.03	-0.13***	-0.01	-0.06
Occupational status	-0.01	0.02	-0.03	0.05	-0.01	0.00	-0.04	-0.02
Supervises	0.00	0.02	-0.05	0.03	0.08	0.00	0.04	0.00
Business owner	-0.01	-0.03	0.01	-0.03	-0.04	0.01	-0.08	0.04
Solo self-employed	-0.04***	-0.05*	-0.06*	-0.05	0.03	-0.05*	-0.06	0.02
Family income	0.00	0.00	0.02	-0.01	0.02	-0.02	-0.05	0.07
Subjective social class	0.02	-0.03	0.00	-0.01	0.04	-0.02	0.14**	-0.01
Formerly Communist nation	0.42***	0.42***	—	—	—	—	—	—
R-squared	0.19	0.18	0.02	0.02	0.02	0.04	0.03	0.02
Rho: Percent of variance due to country	0.05	0.03	—	—	—	—	—	—
Number of cases	6059	1717	1709	636	408	2178	669	459

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

^aFor columns 1 and 2 there are $N = 14$ surveys, not enough for comfort for the contextual variable. Reassuringly, OLS estimates for these are essentially the same as the multi-level results shown, except having (as is well-known) unrealistically low standard errors for the contextual variable.

^bRespondents who came of age and spent most of their working life in the Communist era (reached age 15 after 1947 and before 1965).

Demographic differences are few and erratic, and those that exist are small. Well educated people occasionally would reward themselves more generously (Poland, both before and after the end of Communism), sometimes are abstemious (Australia), but mostly have views no different from anyone else.

Implications

Our results support Aristotelian theory's equity/ meritocracy hypothesis that the general public feels that pay ought to reflect performance—a norm that probably dates back to the origins of human civilization. This proposition is arguably one of the four basic templates for human action (Fiske 1991) and is one of the three primary reward allocation principles (Deutsch 1975; Jasso 1994).

We do not suggest that educational attainments and education-enhanced performance are the *only* justifications that people rely on in forming their earnings ideals. Rather we suggest that rewarding education coexists with many other legitimating principles—for example need, power, authority, tradition, moral virtue, or comparative worth. Importantly, this implies that although people in these diverse nations broadly agree on the appropriate

Table 4

Views About Legitimate Rewards to Education Are a Key Influence on How People Feel About Occupational Earnings Inequality (the ratio of high status earnings to low status earnings, logged)
Standardized partial regression coefficients (first differences in row 1).

	Poland	Hungary	Bulgaria	Australia	Finland	Netherlands
Legitimate pay for education:						
First difference (top 10% vs bottom 10%)	+27%	+26%	+22%	+25%	+38%	+34%
Standardized	0.17***	0.18***	0.23***	0.22***	0.29***	0.23***
Fathers occupation	0.03	0.11**	-0.04	0.04*	0.05	0.03*
Occupational status	0.09**	0.06	0.05	0.03	0.08	0.01
Supervises	0.11***	0.00	0.00	0.02	0.04	-0.01
Business owner	-0.05	0.10**	-0.01	0.01	-0.01	0.03
Solo self-employed	-0.06*	-0.03	-0.06	0.02	-0.01	-0.03*
Family income	0.09***	0.07	-0.16**	0.16***	0.04	0.11
Subjective social class	-0.01	0.03	0.09	0.18***	0.08*	0.09
Male	0.09***	0.03	-0.02	0.10***	0.13***	0.12
Age (years)	0.08**	0.20***	0.05	0.17***	0.16***	0.04
Education (years)	0.11***	0.21***	0.00	0.08**	0.04	-0.01
R-squared	0.14	0.20	0.09	0.20	0.17	0.12
Number of cases	1650	620	396	2159	639	448

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

See Kelley and Zagorski (2005) for the earnings measure.

rewards for education, they may still differ on appropriate rewards for other traits, and on appropriate degrees of redistribution via taxation and welfare/social security and hence on the overall level of inequality they believe proper in their society.

Theoretical Implications: Meritocratic norms as a working hypothesis for future research

Discovering whether meritocracy/equity in the sense of Aristotle's theory of a universal norm of rewarding productivity holds was the first purpose of this paper. The results clearly support the claim for advanced societies, Communist, early post-Communist, and market-oriented. This is important, because it suggests that powerful and sustained institutional differences did not eliminate this common aspect of culture. However, our data only cover advanced societies. We will return later in this discussion to the issue of changes in meritocratic norms with socioeconomic development.

Theoretical Implications: Rejected Alternative Theories

The rejected alternative theories are listed in Table 1, above. Here is the key evidence on them.

Egalitarianism rejected. Radically egalitarian views reject anything—not just education—as a legitimate basis for inequality. The evidence shows that few hold these views: In all these societies and at all levels of their social hierarchies, income rewards to education are legitimate in the eyes of the majority.

The folk human capital hypothesis rejected. Sociological functionalist theory proposed that rewards to education need to be high in order to motivate youth to study long and hard (Davis and Moore 1945). This proposition has been developed elegantly and systematically in economists' human capital theory which argues that potential students will not pursue education unless they perceive that their later earnings will compensate them for the money they pay for education and the income they forgo while acquiring it, with compensation at least equaling the cost of alternative investments in material capital (Becker 1964; Mincer 1958). Insofar as the general public endorses a simplified understanding of this theory as morally legitimate, they embrace what we call "folk human capital culture."

East Central Europe in the Communist era provides a rare case where equity/meritocracy theory and folk human capital culture theory can be empirically distinguished. The East Central European data militate strongly *against* the folk human capital culture hypothesis: Much the same ideals about rewards to education arose in Communist Poland's command economy where there was little cost to education, little reward for it once acquired, and few alternative investments and in the early post-Communist period in Poland, Hungary, and Bulgaria.

Hegemony/dominant ideology arguments rejected. These posit that pay levels are set in the interests of a dominant elite who control the economy, and are also legitimated by them through their control over the dominant ideology. These arguments can be rejected because, if true, the results would have shown high ideal rewards in market-oriented economies where elites valorize the equity principle and openly endorse inequality, together with low or zero rewards in early post-Communist economies where elites long emphasized equality or need as the appropriate basis for reward.

Instead, the results show that the public's attitudes support substantial and broadly similar rewards to education in both market-oriented and early post-Communist societies. In this matter, elite ideology matters little.

Credentialism rejected. A theory with very similar implications, although more specifically tied to education and more strongly emphasizing the boundary maintenance function for the elite, is credentialism. This is the argument that rewards for education do not reflect performance or investments but instead are arbitrary. The main difference from hegemony theory is that credentialism suggests substantial class differences in the market societies, with the lower classes rejecting substantial rewards to education and the higher classes endorsing such rewards.

The evidence is clearly against credentialism: The effects of a wide array of class-related measures are all zero or very small. Moreover Communist elite's attempts to inculcate egalitarian ideology did not persuade their citizens to devalue education.

Educational Policy Implications

Even in market economies, folk human capital and equity/Aristotelian norms/meritocracy arguments conflict in some settings—notably in large firms and in government where pay is set administratively and on-the-job training often provided at the firm's expense (i.e. in ways similar to Communist economies).

In such settings, the dominance of Aristotelian notions of fair pay has important economic implications:

- (1) In a free market with morally approved pay scales, **employer financed training** will be less than the socially optimal amount. That is because employers must pay double: once to pay for the training itself, and again to pay the extra wages to which the trained workers will then, by common consent, be entitled. Profit-maximizing employers will therefore forgo some training opportunities that would be profitable if they had to pay only the costs of training, rather than having to pay the double bill imposed by equity norms of fair pay.
- (2) The same logic applies to government financed education: if a national government pays the direct costs of university education (as most nations do) as well as the indirect costs in production forgone while students are studying (as Communist governments did, and capitalist governments in part do in the form of tax revenues forgone), then a revenue-maximizing government in a society with normatively approved pay scales will invest too little in university education. On the other hand, inclusive educational institutions may further enhance societal consensus about the legitimate magnitude of rewards to education (Kocer and Werfhorst 2012).

Hypothesis for Future Research: Development Promotes Egalitarianism

More speculatively, we would suggest that Aristotle's logic is clearest in an economy of small scale, independent producers. In such an economy, most workers directly produce goods by their own, unaided efforts. Productivity is clear. But in a modern economy with a complex division of labor, we speculate that individual contributions to performance are less clear, and so offer less justification for unequal pay. Moreover, research shows that the actual educational attainment process differs little according to institutional regime, but becomes substantially less ascriptive with socioeconomic development (Evans, Kelley, and Yang 2016; Ganzeboom, Treiman, and Ultee 1991; Marks 2009; Nielsen 2006; Treiman 1970). All this, together with Aristotle's logic implies:

Modernization Hypothesis:

A modern economy will have more egalitarian norms on rewards to education than a traditional one, other things equal.

This would parallel a result that has already been found for legitimate rewards to *occupation* (Evans and Kelley 2007; Kelley and Evans 2009). Education and occupation are of course the main determinants of income, and hence indirectly of savings and the accumulation of wealth over the life-cycle. So we are, in sum, arguing that economic development creates more egalitarian norms about the distribution of income and wealth.

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References

- Aristotle. c. 334–323 BC [1985]. *Nicomachean Ethics*. Indianapolis: Hackett Publishing.
- Austen, S. 2002. An International Comparison of Attitudes to Inequality, *International Journal of Social Economics* 29: 218–37.
- Babones, S. J. 2008. Income Inequality and Population Health, *Social Science & Medicine* 66: 1614–1626.
- Becker, G. S. 1964. *Human Capital*. New York: National Bureau of Economic Research.
- Beckfield, J. 2004. Does Income Inequality Harm Health?, *Journal of Health and Social Behavior* 45: 231–248.
- Beirne, J., and Campos, N. F. 2007. Educational Inputs and Outcomes before the Transition from Communism, *Economics of Transition* 15: 57–76.
- Berger, J., et al. 1972. Structural Aspects of Distributive Justice, in: J. Berger, M. Zelditch, and B. Anderson (eds.), *Sociological Theories in Progress*, Boston, MA: Houghton Mifflin, pp. 119–146.
- Breznau, N. 2010. Economic Equality and Social Welfare, *International Journal of Public Opinion Research* 22(4): 458–84.
- Castillo, J. C. 2011. Legitimacy of Inequality in a Highly Unequal Context, *Social Justice Research* 24: 314–340.
- Davis, K., and Moore, W. 1945. Some Principles of Stratification, *American Sociological Review* 10: 242–49.
- Della Torre, E., Pelagatti, M. M., and Solari, L. 2014. Internal and External Equity in Compensation Systems, *Human Relations* 2014: 1–32.
- Deutsch, M. 1975. Equity, Equality, and Need, *Journal of Social Issues* 31: 137–149.
- Dornstein, M. 1991. *Conceptions of Fair Pay*. New York, NY: Praeger.
- Dulebohn, J. H., and Werling, S. E. 2007. Compensation Research Past, Present, and Future, *Human Resource Management Review* 17: 191–207.
- Duru-Bellat, M., and Tenret, E. 2012. Who's for Meritocracy?, *Comparative Education Review* 56: 223–247.
- Evans, M. D. R., and Kelley, J. 1998. Why Is Education Rewarded?, *Australian Social Monitor* 1: 35–40.
- Evans, M. D. R., and Kelley, J. 2007. Population Size, Economic Development, and Attitudes Towards Inequality, *Population Review* 46(2): 1–21.
- Evans, M. D. R., and Kelley, J. 2017. Communism, Capitalism, and Images of Class, *Cross-Cultural Research* 51(4): 315–35.
- Evans, M. D. R., Kelley, J., and Kolosi, T. 1992. Images of Class, *American Sociological Review* 57:461–482.
- Evans, M. D. R., Kelley, J., and Peoples, C. 2010. Justifications of Inequality, *Social Science Quarterly* 91: 1405–1431.
- Evans, M. D. R., Peoples, C. D., and Kelley, J. 2014. Using Secondary Survey Data to Study Community Sentiment, in: M. K. Miller et al. (eds.), *Handbook of Community Sentiment*. New York: Springer, pp. 69–82.
- Evans, M. D. R., Kelley, J., Yang, J. 2016. Family Background and Education: China in Comparative Perspective, *Comparative Sociology* 15(1): 41–84.
- Fiske, A. 1991. *The Structures of Social Life*. New York: Free Press.
- Flanagan, R. J. 1998. Were Communists Good Human Capitalists? *Labour Economics* 5: 295–312.
- Ganzeboom, H. B. G., Treiman, D. J., Ultee, W. C. 1991. Comparative Intergenerational Stratification Research, *Annual Review of Sociology* 17: 277–30.
- Gerber, Th. P., and Hout, M. 1995. Educational Stratification in Russia During the Soviet Period, *American Journal of Sociology* 101(3): 611–60.
- Gijsberts, M. 2002. The Legitimation of Income Inequality in State-Socialist and Market Societies, *Acta Sociologica* 45(4): 269–85.
- Hadler, M. 2005. Why Do People Accept Different Income Ratios?, *Acta Sociologica* 48: 131–154.
- Halaby, Ch. N. 1986. Worker Attachment and Workplace Authority, *American Sociological Review* 51(5): 634–49.
- Halaby, C. N., and Weakliem, D. L. 1993. Ownership and Authority in the Earnings Function, *American Sociological Review* 58(1): 16–30.

- Haller, M., and Richter, R. 1994. Introduction: The Difficult Transition to Democracy, Market, and Civil Society in Eastern Europe, *International Journal of Sociology* 24(2-3): 3-8.
- Headey, B. 1991. Distributive Justice and Occupational Incomes, *British Journal of Sociology* 42: 581-596.
- Horvat, P., and Evans, G. 2011. Age, Inequality, and Reactions to Marketization in Post-Communist Central and Eastern Europe, *European Sociological Review* 27(6): 708-27.
- Hox, J. J. 1995. *Applied Multilevel Analysis*. Amsterdam: TT-Publikaties.
- Jasso, G. 1980. A New Theory of Distributive Justice, *American Sociological Review* 45: 3-32.
- Jasso, G. 1994. What Is Just?, *Contemporary Sociology* 23: 707-709.
- Kalleberg, A. L. 1988. Comparative Perspectives on Work Structures and Inequality, *Annual Review of Sociology* 14: 203-225.
- Kelley, J. 1990a. The Failure of a Paradigm, in: J. Clarke, S. Modgil, and C. Modgil (eds.), *John Goldthorpe. Consensus and Controversy*. London: Falmer, pp. 319-346.
- Kelley, J. 1990b. Interchange: Kelley Replies to Mueller, in: J. Clarke, S. Modgil, and C. Modgil (eds.), *John Goldthorpe. Consensus and Controversy*. London: Falmer, pp. 349-357.
- Kelley, J., and Evans, M. D. R. 1993. The Legitimation of Inequality, *American Journal of Sociology* 99: 75-125.
- Kelley, J., and Evans, M. D. R. 2009. Economic Development Reduces Tolerance for Inequality, in: M. Haller, R. Jowell, and T. Smith, (eds.), *Charting the Globe*. London: Routledge.
- Kelley, J., and Evans, M. D. R. 2017a. Societal Inequality and Individual Subjective Well-being: Results from 68 societies and over 200,000 individuals, 1981-2008, *Social Science Research* 62(1): 1-23.
- Kelley, J., and Evans, M. D. R. 2017b. The New Income Inequality and Well-Being Paradigm, *Social Science Research* 62(1): 39-74.
- Kelley, J. and Sikora, J. 1999. Class and Attitudes to Private and Public Ownership in East and West, *The Soviet and Post-Soviet Review* 26(1): 13-42.
- Kelley, J. and Zagorski, K. 2005. Economic Change and the Legitimation of Inequality: The Transition From Socialism to the Free Market in Poland and Hungary, 1987-1994, *Research in Social Stratification and Mobility* 22: 321-366.
- Kelley, J., Zagorski, K., Evans, M. D. R., Ervasti, Heikki, Ganzeboom, Harry B.G., Gijssberts, Merove, Kangas, Olli, Robert, Peter, and Zlatkov, Tsocho. 1998. *ISEA, Rounds 1 and 2. Codebook and MRDF*. Point Marka, Australia: International Survey Center (www.international-survey.org).
- Kluegel, J. R., Mason, D. S., and Wegener, B. 1995. *Social Justice and Political Change*. New York: Aldine de Gruyter.
- Kocer, R. G. and Vande Werfhorst, H. G. 2012. Does Education Affect Opinions on Economic Inequality?, *Acta Sociologica* 55: 251-272.
- Kohn, M. L., Slomczynski, K. M., Janicka, K., Khmelko, V., Mach, B. W., Paniotto, V., Zaborowski, W., Gutierrez, R., and Heyman, C. 1997. Social Structure and Personality under Conditions of Radical Social Change, *American Sociological Review* 62: 614-638.
- Kołczyńska, M., and Merry, J. J. 2016. Preferred Levels of Income Inequality in a Period of Systemic Change, *Polish Sociological Review* 194 (2): 171-189.
- Koralewicz-Zębk, J. 1984. The Perception of Inequality in Poland 1956-1980, *Sociology* 18(2): 225-238.
- Kraus, V., and Hodges, R. W. 1987. Economy, Polity and Occupational Prestige, *Research in Social Stratification and Mobility* 6: 113-139.
- Kunovich, S., and Slomczynski, K. M. 2007. Systems of Distribution and a Sense of Equity, *European Sociological Review* 23: 649-663.
- Machonin, P., and Tucek, M. 1994. A Historical Comparison of Social Structures in the Czech Republic in the Years 1984 and 1993, *Czech Sociological Review* 2: 149-172.
- Marks, G. N. 2009. Modernization theory and changes over time in the reproduction of socioeconomic inequalities, *Social Forces* 88(2): 917-944.
- Marks, G. N. 2010. Meritocracy, Modernization and Students' Occupational Expectations, *Research in Social Stratification and Mobility* 28: 275-289.
- Marks, G. N. 2013. *Education, Social Background and Cognitive Ability*. Oxford: Oxford University Press.
- Marshall, G., Swift, A., Routh, D., and Burgoyne, C. 1999. What is and what ought to be, *European Sociological Review* 15: 349-367.
- Mateju, P., and Lim, N. 1995. Who Has Gotten Ahead After the Fall of Communism?, *Czech Sociological Review* 3: 117-136.
- Mateju, P. and Rehakova, B. 1996. Education as a Strategy for Life Success in the Postcommunist Transformation, *Comparative Education Review* 40(2): 158-176.

- Mateju, P., and Vlachova, K. 1998. Values and Electoral Decisions in the Czech Republic, *Communist and Postcommunist Studies* 31(3): 249–269.
- Milkovich, G., Newman, J., and Gerhart, B. 2013. *Compensation. 11th edition*. New York, NY: McGraw-Hill.
- Mincer, J. 1958. Investment in Human Capital and Personal Income Distribution, *Journal of Political Economy* 66: 281–302.
- Moore, D. 1991. Entitlement and Justice Evaluations, *Social Psychology Quarterly* 54: 208–23.
- Murphy, K. M., and Welch, F. 1994. Industrial Change and the Rising Importance of Skill, in: S. Danziger and P. Gottschalk (eds.), *Uneven Tides*. New York: Russell Sage Foundation, pp. 101–132.
- Nielsen, F. 2006. Achievement and Ascription in Educational Attainment, *Social Forces* 85(1): 193–216.
- Oesch, D. 2013. *Occupational Change in Europe*. Oxford: OUP.
- Parsons, T. 1970. Equality and Inequality in Modern Society, in: E. O. Laumann (ed.), *Social Stratification*. Indianapolis: Bobbs-Merrill, pp. 3–72.
- Peoples, C. D. 2011. Consistency in the Midst of Change: Class and Value Stability in Poland, 1988–2003, *Comparative Sociology* 10(1): 126–44.
- Piketty, T. 2014. *Capital in the Twenty-First Century*. Boston: Harvard University Press.
- Psacharopoulos, G. 1973. *Returns to Education*. San Francisco: Jossey-Bass.
- Psacharopoulos, G., and Patrinos, H. A. 2004. Returns to Investment in Education, *Education Economics* 12: 111–134.
- Rawls, John. 1971. *A Theory of Justice*. Cambridge, MA: Harvard University Press.
- Reeskens, T., and van Oorschot, W. 2013. Equity, Equality, or Need?, *Journal of European Public Policy* 20: 1174–1195.
- Reynolds, J., and Xian, H. 2014. Perceptions of Meritocracy in the Land of Opportunity, *Research in Social Stratification and Mobility* 36: 121–137.
- Sarapata, A. 1963. Iustum Pretium, *Polish Sociological Bulletin* 1: 41–56.
- Schultz, T. W. 1980. Nobel Lecture: The Economics of Being Poor, *Journal of Political Economy* 88: 639–51.
- Sen, A. 1973. *On Economic Inequality*. Oxford: Clarendon.
- Shamon, H., and Duellmer, H. 2014. Raising the Question on 'Who Should Get What?' again, *Social Justice Research* 27: 340–368.
- Shepelak, N. J. and Alwin, D. F. 1986. Beliefs About Inequality and Perceptions of Distributive Justice, *American Sociological Review* 51: 30–46.
- Sikora, J. 2005. Perceptions of Economic Efficiency of Government versus Private Enterprises, and Attitudes to Government Ownership in the Economy, *Research in Social Stratification and Mobility* 23: 227–274.
- Sikora, J., and Kelley, J. 1999. Attitudes to Private and Public Ownership in East and West, *The Soviet and Post-Soviet Review* 26: 13–42.
- Silova, I., and Eklof, B. 2013. Education in Eastern and Central Europe, in: R. F. Arnove, et al. (eds.), *Comparative Education*. Lanham, MD: Rowman and Littlefield, pp. 379–402.
- Simkus, A., and Robert, P. 1995. Attitudes toward Inequality in Hungary, *International Journal of Sociology* 25(4): 85–102.
- Słomczyński, K. M., and Wilk, K. M. 2002. Who Still Likes Socialism and Why?, *International Journal of Sociology* 32(3): 64–78.
- Słomczyński, K. M., Białcki, I., Domański, H., Janicka, K., Mach, B. W., Sawiński, Z., Sikorska, J., Zaborowski, W. 2008. *Social Structure in Poland: POLPAN 1988*. GESIS Data Archive, Cologne. ZA4670 Data file Version 1.0.0, doi:10.4232/1.4670. See also www.polpan.org
- Smith, M. L. and Mateju, P. 2012. Two Decades of Value Change: The Crystallization of Meritocratic and Egalitarian Beliefs in the Czech Republic, *Social Justice Research* 25(4): 421–39.
- Svallfors, S. 1993. Dimensions of Inequality, *European Sociological Review* 9: 267–287.
- Treiman, D. J. 1970. Industrialization and Social Stratification, in: E. O. Laumann (ed.), *Social Stratification*. Indianapolis: Bobbs Merrill, pp. 207–234.
- vande Werfhorst, H. G. 2011. Skills: Positional Good or Social Structure?, *Journal of Education and Work* 24: 521–548.
- Verwiebe, R., and Wegener, Berndt. 2000. Social Inequality and the Perceived Income Justice Gap, *Social Justice Research* 13(1): 123–49.
- Verba, S., and Orren, G. R. 1985. *Equality in America*. Cambridge, MA: Harvard University Press.
- Verhoeven, W.-J., Jansen, W., and Dessens, J. 2005. Income Attainment During Transformation Processes, *European Sociological Review* 21: 201–226.
- Walster, E., Berscheid, E., and Walster, G. W. 1973. New Directions in Equity Research, *Journal of Personality and Social Psychology* 25(2): 151–176.

- Wegener, B., and Liebig, S. 1995. Dominant Ideologies and the Variation of Distributive Justice Norms, in: D. S. Mason, J. R. Kluegel, B. Wegener (eds.), *Social Justice and Political Change*. Hawthorne, NY: Aldine de Gruyter, pp. 239–62.
- Wilkinson, R. G., and Pickett, K. E. 2009. Income Inequality and Social Dysfunction, *Annual Review of Sociology* 35: 493–511.
- Zagórski, K. 1994. Hope Factor, Inequality, and Legitimacy of Systemic Transformations, *Communist and Post-Communist Studies* 27: 357–79.
- Zagórski, K., and Domański, H. 1996. Individual and Industrial Determinants of Earnings in Free Market and Centrally Planned Economy, *Polish Sociological Review*.
- Zagórski, K., Evans, M. D. R., Kelley, J., and Piotrowska, K. 2014. Does National Income Inequality Affect Individuals' Quality of Life in Europe?, *Social Indicators Research* 117: 1089–1110.
- Zagórski, K., and Kolarska-Bobińska, L. 1996. *Poland: International Survey of Economic Attitudes, 1994. Codebook and Machine-Readable Data File*. Warszawa: Institute of Political Studies, Polish Academy of Sciences.
- Zagórski, K., and Kolarska-Bobińska, L. 1998. *Poland: International Survey of Economic Attitudes, 1997. Codebook and Machine-Readable Data File*. Warszawa: Institute of Political Studies, Polish Academy of Sciences.

Biographical Notes

M.D.R. Evans received her Ph.D. in Sociology in 1983 from the University of Chicago. Currently she is Professor of Sociology, Faculty Member in Social Psychology, and Coordinator of the Applied Statistics Program at the University of Nevada. Her recent research focuses on inequality, social stratification, and culture in comparative perspective, prejudice and discrimination, well-being, religion, science and morals, public opinion and quantitative research methods.

Email: mariahev2@gmail.com

Jonathan Kelley, Ph.D., is Director of the International Survey Center (19 large national surveys in Australia and the USA, most recently in 2016) and Adjunct Professor of Sociology and Faculty Member in the Interdisciplinary PhD Program in Social Psychology at the University of Nevada. His interests include inequality and subjective wellbeing, inequality and development, religion and bioethics, public opinion and a participant observation study of twins with Evans. For further information see: <http://www.international-survey.org/>

E-mail: international.survey@gmail.com