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Personality Traits, Income, and Economic Ideology

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While the psychological underpinnings of social ideology are well established, less is known about the psychological underpinnings of economic ideology. In this study, I assess whether Big Five personality traits are associated with economic ideology and when personality traits are more strongly or more weakly associated with economic ideology. I hypothesize that low income attenuates the association between the Big Five traits and economic ideology. Studies conducted in Denmark, the United Kingdom, and the United States show that Conscientiousness is positively correlated with economic conservatism, while Agreeableness and Neuroticism are negatively correlated with economic conservatism. Moreover, low income attenuates the association between personality traits and economic ideology. I report a weaker association between Agreeableness and economic ideology among poor people compared to wealthier people in all three countries. Low income also attenuates the association between economic ideology and the traits Openness (Denmark), Extraversion (United Kingdom), and Neuroticism (United States). I contribute to the literature addressing the psychological correlates of economic ideology by showing that (1) economic ideology has a distinct set of personality correlates and (2) low income attenuates the association between some personality traits and economic ideology.

KEY WORDS: Big Five, income, economic ideology

Research in political psychology has emphasized that personality traits—operationalized using the Big Five personality traits—are associated with political ideology.¹ The associations between Big Five personality traits and liberal-conservative ideology (Sibley, Osborne, & Duckitt, 2012) and social ideology are well established (Carney, Jost, Gosling, & Potter, 2008; Gerber, Huber, Doherty, Dowling, & Ha, 2010; Van Hiel & Mervielde, 2004). Less is known about the psychological correlates of economic ideology. Some put forward that the psychological correlates of economic ideology align with the correlates of liberal conservative ideology (Jost, Glaser, Kruglanski, & Sulloway, 2003). Hibbing, Smith, and Alford (2014), however, put forward that “psychological and biological characteristics are less relevant to economic issues . . . than they are to social issues” (p. 305). A third perspective holds that economic ideology has a distinct set of psychological correlates compared to social ideology (Duckitt & Sibley, 2010; Feldman & Johnston, 2014). Following the latter perspective, I hypothesize that Openness, Agreeableness, and Neuroticism correlate negatively with economic conservatism, while Conscientiousness correlates positively with economic conservatism.

¹ Replication files are available upon the website of the author (www.bertbakker.com).

I move beyond the question of *whether* personality traits are associated with economic ideology but also address the question *when* personality traits are more strongly or more weakly associated economic ideology. I hypothesize that low income attenuates the association between personality and economic ideology. I do so because people with a lower income, compared to richer people, are more preoccupied with their most immediate needs (Mani, Mullainathan, Shafir, & Zhao, 2013; Shah, Mullainathan, & Shafir, 2012) and accordingly hold more income-related thoughts (Justesen, 2015; Roux, Goldsmith, & Bonezzi, 2015). Consequently, poor people *focus* their attention to that which is scarce (i.e., their income) and *tunnel* their attention so that they reduce attention to all other things in their environment (Mullainathan & Shafir, 2013). People with a high income, however, do not experience these restraints thereby allowing their personality traits to matter for their economic ideology. Therefore, I expect a stronger association between personality and economic ideology among people with a high income, while I expect a weaker association between personality and economic ideology among people with a low income.

In studies conducted in Denmark, the United Kingdom, and the United States, I show that Conscientiousness is positively correlated with economic conservatism, while Agreeableness and Neuroticism are negatively correlated with economic conservatism. Moreover, low income attenuates the association between personality and economic ideology. The association between Agreeableness and economic ideology is weaker among people with a low income, while the association is stronger among wealthier people. I also find evidence that low income attenuates the associations between economic ideology and Openness (Study 1), Extraversion (Study 2), and Neuroticism (Study 3). These patterns of associations are limited to the economic-ideology dimension.

To conclude, my findings support that economic ideology has a distinct set of personality correlates compared to social ideology (Duckitt & Sibley, 2010; Feldman & Johnston, 2014). Moreover, the existing literature has—with notable exceptions (Leone, Chirumbolo, & Desimoni, 2012; Malka, Soto, Inzlicht, & Lelkes, 2014; Osborne & Sibley, 2015)—studied the direct association between personality and economic ideology. I show that low income attenuates the effect of—at least some—personality traits on economic ideology. This means that it is not only the question of *whether* personality matters for economic ideology but that it is equally important to consider *when* personality traits are more strongly or more weakly associated with economic ideology. In doing so, this study contributes to the literature addressing psychological correlates of economic ideology and political ideology more broadly.

Personality and Economic Ideology

I rely upon the Big Five model of personality which isolates the traits Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism (Goldberg, 1990). The Big Five traits are partly heritable, develop in childhood, are robust across cultures and relatively stable over time (Mondak, 2010, Chap. 2). Social ideology is clearly psychologically rooted because social conservatism is negatively correlated with Openness and positively correlated with Conscientiousness (Carney et al., 2008; Riemann, Grubich, Hempel, Mergl, & Richter, 1993; Van Hiel & Mervielde, 2004). It is, however, less clear whether economic ideology is psychologically rooted. Some argue that the personality correlates of economic ideology align with the correlates of liberal conservative ideology (Jost et al., 2003). Hibbing and colleagues (2014), however, suggest that psychological characteristics might be less relevant for economic ideology. Yet others put forward that economic ideology has a distinct set of personality correlates (Duckitt & Sibley, 2010; Feldman & Johnston, 2014).

Following the latter perspective, I discuss the literature assessing the association between Big Five traits and economic ideology. *Openness* marks the sensitivity to feelings, the willingness to try new activities and to consider new ideas. Open-minded people support liberal (left-wing) economic

policies that intent to change the current status quo such as income redistribution (Gerber et al., 2010; Riemann et al., 1993; Van Hiel & Mervielde, 2004). *Conscientious* people are dutiful, self-disciplined, and strive for achievement. Supposedly, the preference for stability and order underlies the positive association between Conscientiousness and conservative economic ideology (Gerber et al., 2010). The altruism, tender-mindedness, and trust rooted in *Agreeableness* could explain the negative association between the trait and economic conservatism (Gerber et al., 2010; Riemann et al., 1993; Van Hiel & Mervielde, 2004). *Neuroticism* marks the experience of negative affect, and neurotic people support liberal economic policies that “create ‘safety nets’ and reduce exposure to market risk” (Gerber et al., 2010, p. 116). Finally, the conceptual understanding of the association between Extraversion and economic conservatism is unclear.

In line with the psychological correlates of social ideology, I expect that Openness correlates negatively with economic conservatism, while Conscientiousness correlates positively with economic conservatism. But I also expect that Agreeableness and Neuroticism are negatively correlated with economic conservatism.

Personality, Income, and Economic Ideology

I move beyond the direct associations between personality and economic ideology following Mondak and Halperin (2008) who state that “full attention to the possible political significance in [personality] traits will require expanded exploration of possible indirect effects” (p. 339). Recently, political interest has been put forward as a moderator of the association between personality and economic ideology (Desimoni & Leone, 2014; Federico, Johnston, & Lavine, 2014; Leone et al., 2012). I hypothesize that income moderates the association between personality and economic ideology. Income is known as a correlate of economic ideology. People with a low income hold a more liberal economic ideology and support policies such as the redistribution of income (Alesina & La Ferrara, 2005; Kluegel & Smith, 1986; Rehm, 2009). A drop in income over time increases support for liberal economic policies such as income redistribution (Owens & Pedulla, 2014), while a sudden increase in income causes opposition to liberal economic policies (Doherty, Gerber, & Green, 2006). People with a low income support liberal economic policies such as income redistribution because they will gain more from income redistribution compared to wealthier people. Moreover, people with a low income will face low tax rates when redistribution is achieved via more progressive taxation. People with a high income, however, will be more likely to oppose liberal economic policies because they will not use these policies themselves. Generally, income is associated with economic ideology due to the economic self-interest of citizens.

So far, the association between income and economic ideology has been isolated independent from the association between personality and economic ideology. Lane (1955) put forward that support for the welfare state—an issue central to the economic-ideology dimension (Treier & Hillygus, 2009)—among people with lower income levels “has a quality of self-interest which obscures and overrides the relationship of personality (authoritarianism) to attitudes toward the welfare state” (p. 186). For people with a high income, “there is no such clear self-interest” (p. 186). Among this group, personality (i.e., authoritarianism) was indeed associated with attitudes towards the welfare state. Accordingly, Lane (1955) provided the first insight that personality might sometimes be more strongly or more weakly associated with economic ideology.

Recent research on the psychology of scarcity supports that low income attenuates the influence of other factors that drive human behavior. Poor people spend their attention upon their most immediate needs, while wealthier people were capable of moving beyond these immediate needs (Shah et al., 2012). According to Roux and colleagues (2015) “a poor individual’s mind will be more occupied by money-related thoughts than a rich individual” (p. 627). As a consequence, poor people rate issues

such as poverty and unemployment as more important compared to abstract and long-term issues such as AIDS (Justesen, 2015). Moreover, poor people performed worse on tasks of cognitive control and intelligence compared to wealthier people (Mani et al., 2013). Mani and colleagues (2013) conclude that among poor people the “preoccupations with pressing budgetary concerns leave fewer cognitive resources available to guide choice and action” (p. 976). This means “material scarcity seems to change people’s allocation of attention” (Haushofer & Fehr, 2014, p. 866). Summarizing this line of research, Mullainathan and Shafir (2013) point out that, compared to rich people, poor people *focus* their attention more—meaning that they pay more attention to that which is scarce—and (2) poor people *tunnel* their attention—meaning that they reduce attention to all other things in their environment—and rely “less on the external context,” while they turn to “internally generated standards” (Shah, Shafir, & Mullainathan, 2015, p. 409). People with a high income do not experience these restraints.

Building upon the literature on the psychology of scarcity, I expect that low income attenuates the association between personality and economic ideology and that there will be a weaker association between personality traits and economic ideology among people with a low income. People with a high income do not experience these restraints, and I expect the negative associations between economic conservatism and the traits Openness, Agreeableness, and Neuroticism as well as the positive correlation Conscientiousness and economic conservatism to be stronger compared to people with a low income. Finally, I do not have explicit expectations about the extent to which income attenuates the association between Extraversion on economic ideology.

Research Design

I report the results of studies conducted in Denmark (Study 1), the United Kingdom (Study 2), and the United States (Study 3). Economic ideology is measured with items tapping into central aspects of the economic-ideology dimension, namely the redistribution of income and the creation of income equality by the government (Treier & Hillygus, 2009). I employ reliable and valid measures of personality in all three studies. Finally, in all three studies income is operationalized using self-reported annual household income before taxes.

Ordinary least squares regression models test the association between personality and economic ideology excluding and including the covariates sex, age, education, union membership, and religiosity. I test whether low income attenuates the association between personality and economic ideology by interacting personality with income.² However, variables correlated with income could cause the association between the Big Five traits and economic ideology to be attenuated by income. In order to account—at least partly—for the potential omitted variable bias, I interact the Big Five traits with the covariates sex, age, education, union membership, and religiosity included in the models. Finally, I test whether the hypothesized pattern of associations between personality and economic ideology is distinct from the associations between personality and social ideology by running similar models using measures of social ideology.³

² Centering personality and income at their mean leads to similar results (Kromrey & Foster-Johnson, 1998).

³ Results are robust controlling for the interaction between personality and political interest (Appendix E in the online supporting information) and personality and political knowledge (Appendix F in the online supporting information). Moreover, the extent to which income moderates the association between personality and economic ideology is linear (Appendix G in the online supporting information), and the association between personality and economic ideology is only a limited extent mediated by income (Appendix H in the online supporting information), while personality traits also moderate the effect of income on economic ideology (Appendix I in the online supporting information).

Study 1: Denmark

Method

Between May 25 and June 6, 2010, *Gallup Denmark* invited 8,012 panel members—stratified by gender, age, region, and education—to participate in the online survey. Resulting in a 45% response rate, 3,612 adults completed the questionnaire. Economic ideology is measured using two items, namely “High income earners do not pay enough taxes” and “Income inequality is too great in this country—the greatest pay raise should be given to low-income people” and scored on scales ranging from 1 (*agree completely*) to 4 (*disagree completely*). The economic-ideology dimension is internally consistent ($\alpha = 0.78$) and scored to range from liberal (0) to conservative economic ideology (1). Social ideology is measured using seven items and scored to range from liberal (0) to conservative social ideology (1).

Personality is measured using the 60-item NEO PI-R Short Version (Skovdahl-Hansen, Mortensen, & Schiøtz, 2004). The items belonging to each trait are internally consistent and scored to range from 0 to 1. Finally, income is measured using annual household income before taxes and scored to range from the lowest (0) to the highest income (1).⁴

Results

The direct association between Big Five traits and economic ideology—excluding and including the covariates income, education, union membership, and religiosity (Table 1, model 1–2)—confirms Conscientiousness correlates positively with economic conservatism, while Agreeableness and Neuroticism correlate negatively with economic conservatism. Contrary to the expectations, Openness is unrelated to economic ideology. The associations between personality and economic ideology are substantive. For instance, the difference in economic ideology between respondents that score one standard deviation below the mean on Conscientiousness (0.44[95%CI = 0.42,0.45]) and one standard deviation above the mean on Conscientiousness (0.49[95%CI = 0.48,0.51]) is only somewhat smaller compared to the difference in economic ideology between union (0.43[95%CI = 0.42,0.44]) and non-union members (0.51[95%CI = 0.50,0.53]).

I confirm that low income attenuates the association between Openness and economic ideology (Table 1, model 3–4). Figure 1 (panel A) shows that there is no marginal effect of Openness on economic ideology among respondents with a low income, while there is a negative marginal effect of Openness on economic ideology among respondents with a higher income. Based upon model 4 (Table 1), I calculate the effect of a two standard deviation shift in personality (1 *SD* below and above the mean) and a two standard deviation shift in income (1 *SD* below and above mean) on economic ideology. There are no differences in economic ideology between respondents with a low income (1 *SD* below the mean) that score a standard deviation below (0.39[95%CI = 0.37,0.41]) and above the mean on Openness (0.42[95%CI = 0.39,0.44]). Supporting my hypothesis, respondents with a high income (1 *SD* above the mean) that score one standard deviation below the mean on Openness express a more conservative economic ideology (0.55[95%CI = 0.53,0.57]) compared to those that score one standard deviation above the mean on Openness (0.51[95%CI = 0.48,0.53]).

Low income also attenuates the association between Agreeableness and economic ideology (Figure 1, panel B). There is a small negative marginal effect of Agreeableness on economic ideology for respondents with a low income. Yet, the marginal effect of Agreeableness on economic ideology is stronger for the wealthier respondents. Specifically, respondents with a low income (1 *SD* below the mean) that score a standard deviation below the mean on Agreeableness have a more conservative

⁴ Appendix A in the online supporting information provides item wording and descriptive statistics.

Table 1. Personality, Income, and Ideology in Study 1 (Denmark)

	Economic Ideology (0 [<i>liberal</i>] to 1 [<i>conservative</i>])				Social Ideology (0 [<i>liberal</i>] to 1 [<i>conservative</i>])			
	1	2	3	4	5	6	7	8
Openness (0–1)	–0.04 (0.04)	–0.05 (0.04)	0.14* (0.07)	0.10 (0.17)	–0.58* (0.02)	–0.46* (0.02)	–0.51* (0.04)	–0.67* (0.10)
Conscientiousness (0–1)	0.24* (0.04)	0.19* (0.04)	0.15 (0.08)	0.28 (0.19)	0.15* (0.02)	0.17* (0.02)	0.16* (0.04)	0.03 (0.10)
Extraversion (0–1)	–0.03 (0.04)	–0.08 (0.04)	–0.18* (0.08)	–0.07 (0.19)	0.13* (0.02)	0.10* (0.02)	0.10* (0.04)	0.01 (0.11)
Agreeableness (0–1)	–0.51* (0.04)	–0.45* (0.04)	–0.31* (0.08)	–0.49* (0.18)	–0.26* (0.02)	–0.28* (0.02)	–0.27* (0.04)	–0.17 (0.10)
Neuroticism (0–1)	–0.28* (0.04)	–0.22* (0.04)	–0.16 (0.08)	–0.11 (0.20)	0.07* (0.02)	0.03 (0.02)	–0.02 (0.05)	0.03 (0.11)
Income (0–1)		0.25* (0.02)	0.55* (0.19)	0.45* (0.20)		–0.03* (0.01)	–0.15 (0.11)	–0.14 (0.11)
Personality × Income								
Openness × Income			–0.46* (0.14)	–0.43* (0.15)			0.12 (0.08)	0.08 (0.08)
Conscientiousness × Income			0.08 (0.16)	0.13 (0.16)			0.04 (0.09)	0.01 (0.09)
Extraversion × Income			0.24 (0.16)	0.28 (0.17)			–0.01 (0.09)	–0.00 (0.09)
Agreeableness × Income			–0.31* (0.15)	–0.26 (0.15)			–0.02 (0.08)	0.01 (0.08)
Neuroticism × Income			–0.13 (0.16)	–0.13 (0.17)			0.10 (0.09)	0.11 (0.09)
Female (=1)	0.01 (0.01)	0.01 (0.01)	0.00 (0.01)	–0.07 (0.10)	0.00 (0.01)	0.00 (0.01)	0.00 (0.01)	–0.15* (0.06)
Age (years; 18–90)	–0.00* (0.00)	–0.00* (0.00)	–0.00* (0.00)	–0.00 (0.00)	0.00* (0.00)	0.00* (0.00)	0.00* (0.00)	0.00 (0.00)
Education (1 = primary school; 5 = bachelor or higher)		0.03* (0.00)	0.03* (0.00)	0.04 (0.04)		–0.03* (0.00)	–0.03* (0.00)	–0.06* (0.02)
Union member (= 1)		–0.09* (0.01)	–0.09* (0.01)	0.25* (0.10)		–0.02* (0.01)	–0.02* (0.01)	0.03 (0.06)
Religiosity (Ref. Nonreligious)								
Christian		0.07* (0.01)	0.07* (0.01)	0.01 (0.12)		0.07* (0.01)	0.07* (0.01)	0.01 (0.06)
Other		–0.02 (0.04)	–0.03 (0.04)	–0.57 (0.37)		0.01 (0.02)	0.01 (0.02)	0.10 (0.21)
Include Personality × all other Covariates	No	No	No	Yes	No	No	No	Yes
Constant	0.86* (0.05)	0.70* (0.06)	0.55* (0.10)	0.52* (0.23)	0.69* (0.03)	0.76* (0.03)	0.81* (0.06)	0.95* (0.12)
<i>N</i>	3390	3146	3146	3146	3600	3310	3310	3310
<i>R</i> ²	0.09	0.17	0.17	0.19	0.26	0.34	0.34	0.36
ΔF			4.04	3.62			<i>ns</i>	<i>ns</i>

Note. Ordinary least squares regression coefficients with standard errors reported in the parentheses. Interaction effects between Big Five traits and all covariates (model 4 and 8) are presented in Appendix D of the online supporting information. * $p < 0.05$.

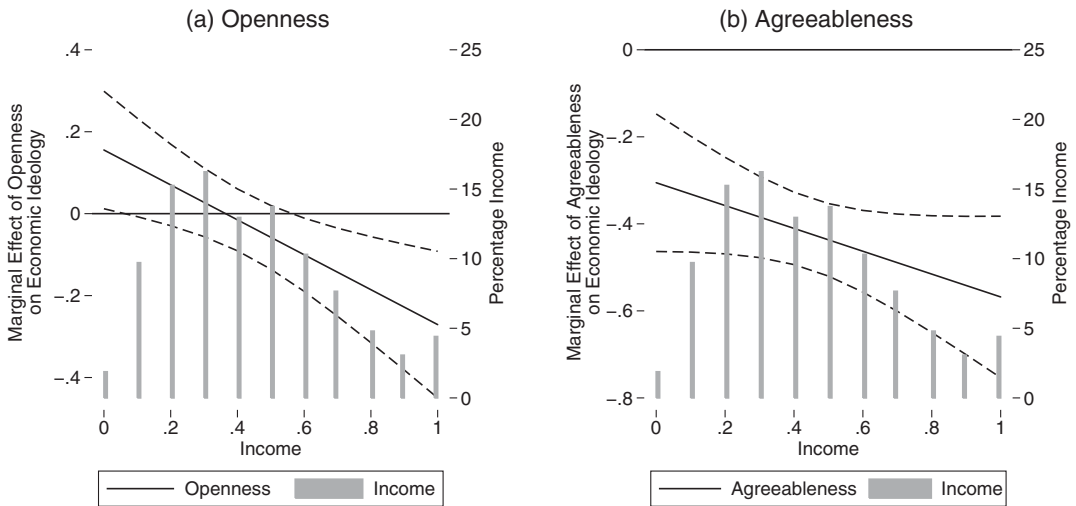


Figure 1. Marginal effect of personality on economic ideology in Study 1 (Denmark). Each panel illustrates the marginal effect of a personality trait on economic ideology over the full range of income (0–1). A positive marginal effect indicates a more conservative economic ideology, whereas a negative marginal effect indicates a more liberal economic ideology. The histogram in each panel indicates the distribution of income. Each panel is based on model 4 projected in Table 1.

economic ideology (0.44[95%CI = 0.42,0.46]) compared to respondents that score one standard deviation above the mean on Agreeableness (0.35[95%CI = 0.33,0.37]). In line with my expectations, respondents with a high income (1 SD above the mean) that score one standard deviation below the mean on Agreeableness hold a more conservative economic ideology (0.58[95%CI = 0.56,0.60]) compared to respondents with a high income that score one standard deviation above the mean on Agreeableness (0.46[95%CI = 0.44,0.48]). The difference in economic ideology between low-agreeable and high-agreeable respondents with a high income is 1.33 times larger compared to the difference in economic ideology between low- and high-agreeable respondents with a low income.

Unexpectedly, income did not attenuate the association between economic ideology and the traits Conscientiousness and Neuroticism. I will discuss these findings in the general discussion of the article.

Next, I turn to the association between personality, income, and social ideology (Table 1, model 5–8). In line with the results for the economic-ideology dimension, Conscientiousness correlates positively with social conservatism, while Agreeableness correlates negatively with social conservatism (Table 1, model 5–6). Contrary to the economic-ideology dimension, there is a strong negative association between Openness and social conservatism, while Neuroticism and Extraversion are positively correlated with social conservatism. With the exception of Openness, the strength of the association between social conservatism and the Big Five traits is weaker compared to the association between personality and economic ideology. Finally, income does not attenuate the association between personality and social ideology (Table 1, model 7–8).

Discussion

Study 1 indicates that Conscientiousness, Agreeableness, and Neuroticism are associated with economic ideology. Moreover, low income attenuates the association between some personality traits and economic ideology. The negative association between economic conservatism and the traits Openness and Agreeableness is weaker among people with a low income compared to people with a

high income. This pattern of associations is distinct from the social-ideology dimension. To assess the robustness of my findings, I test my argument in the United Kingdom.

Study 2: United Kingdom

Methods

I use the National Child Development Study (NCDS) 1958 which is a panel study of a cohort of persons born between March 3–9, 1958, in the United Kingdom (Power & Elliott, 2006). The sixth wave of the NCDS was conducted in 2000 when panel members were 41–42 years old (University of London, Institute of Education, Centre for Longitudinal Studies, 2008). Resulting in a 71.1% response rate, 15,451 panel members were invited, and 10,979 panel members completed the survey.

Economic ideology is measured using one item: “The government should redistribute income” scored on a 5-point Likert scale ranging from 1 (*strongly agree*) to 5 (*strongly disagree*) and coded to range from liberal (0) to conservative economic ideology (1). Social ideology is measured using five items and scored to range from liberal (0) to conservative social ideology (1).

Personality is measured in 2008 using the 50-item International Personality Item Pool–Five Factor Model (Goldberg, 1999) in the eighth wave of the NCDS when panel members were 50 years. I do not expect this to be problematic as personality is relatively stable over time (Roberts, Walton, & Viechtbauer, 2006) and stably associated with political ideology over time (Bloeser, Canache, Mitchell, Mondak, & Poore, 2015). The items belonging to each trait are internally consistent and scored to range from 0 to 1. Income—measured in the sixth wave (year 2000)—is measured using the annual household income before taxes and scored to range from the lowest (0) to the highest income (1).⁵

Results

Like in Study 1, Conscientiousness correlates positively with economic conservatism, while Agreeableness and Neuroticism correlate negatively with economic conservatism (see Table 2, model 1–2).⁶ In line with Study 1, Openness is unrelated to economic ideology. The associations between personality and economic ideology are substantive and unaffected by the inclusion of the covariates in model 2.

Turning to the interaction effects, model 3 (Table 2) indicates that income attenuates the association between Openness and economic ideology. Yet income does not attenuate the association between Openness and economic ideology controlling for the interaction effects between personality and the covariates in model 4 (Table 2). In line with Study 1, low income does attenuate the association between Agreeableness and economic ideology. Figure 2 (panel A) shows that there is no statistically significant marginal effect of Agreeableness on economic ideology among respondents with a low income, while there is a negative and statistically significant marginal effect of Agreeableness on economic conservatism among wealthier respondents.

In line with the results in Study 1, there is no evidence that income attenuates the association between economic ideology and the traits Conscientiousness and Neuroticism. I do observe that low income attenuates the association between Extraversion and economic ideology. Figure 2 (panel B) indicates that there is no marginal effect of Extraversion on economic conservatism at the lower income levels, while there is a positive marginal effect of Extraversion on economic conservatism when income increases.

Turning to social ideology, there is—in line with Study 1—a strong negative correlation between Openness and social conservatism (Table 2, model 5–8). The strength and direction of the positive

⁵ Appendix B in the online supporting information provides item wording and descriptive statistics.

⁶ See Appendix J in the online supporting information for Ordered Logistic Regression models.

Table 2. Personality, Income, and Ideology in Study 2 (United Kingdom)

	Economic Ideology				Social Ideology			
	(0 [<i>liberal</i>] to 1 [<i>conservative</i>])				(0 [<i>liberal</i>] to 1 [<i>conservative</i>])			
	1	2	3	4	5	6	7	8
Openness (0–1)	–0.02 (0.02)	–0.02 (0.02)	0.06 (0.04)	0.04 (0.07)	–0.29* (0.01)	–0.13* (0.01)	–0.08* (0.02)	–0.20* (0.04)
Conscientiousness (0–1)	0.13* (0.02)	0.11* (0.02)	0.08* (0.04)	0.09 (0.07)	0.13* (0.01)	0.12* (0.01)	0.08* (0.02)	0.09* (0.04)
Extraversion (0–1)	0.07* (0.02)	0.05* (0.02)	–0.05 (0.04)	–0.03 (0.06)	0.08* (0.01)	0.05* (0.01)	0.03 (0.02)	0.04 (0.04)
Agreeableness (0–1)	–0.13* (0.02)	–0.13* (0.02)	0.05 (0.04)	0.03 (0.07)	0.01 (0.01)	0.00 (0.01)	0.01 (0.02)	0.03 (0.04)
Neuroticism (0–1)	–0.13* (0.02)	–0.12* (0.02)	–0.15* (0.03)	–0.17* (0.05)	0.09* (0.01)	0.06* (0.01)	0.06* (0.02)	0.03 (0.03)
Income (0–1)		0.15* (0.01)	0.39* (0.09)	0.33* (0.09)		–0.04* (0.01)	–0.03 (0.05)	–0.01 (0.05)
Personality × Income								
Openness × Income			–0.19* (0.09)	–0.06 (0.09)			–0.13* (0.05)	–0.04 (0.05)
Conscientiousness × Income			0.06 (0.08)	–0.00 (0.08)			0.09* (0.04)	0.02 (0.05)
Extraversion × Income			0.25* (0.08)	0.19* (0.08)			0.06 (0.04)	0.03 (0.04)
Agreeableness × Income			–0.43* (0.09)	–0.34* (0.09)			–0.03 (0.05)	–0.03 (0.05)
Neuroticism × Income			0.07 (0.06)	–0.00 (0.07)			–0.00 (0.04)	–0.02 (0.04)
Female (= 1)	0.02* (0.01)	0.03* (0.01)	0.03* (0.01)	–0.05 (0.04)	–0.01 (0.00)	–0.01 (0.00)	–0.01 (0.00)	–0.05* (0.02)
Education (1 = No; 7 = Higher degree)		0.00 (0.00)	0.00 (0.00)	0.04* (0.01)		–0.03* (0.00)	–0.03* (0.00)	–0.03* (0.01)
Union member (= 1)		–0.05* (0.01)	–0.05* (0.01)	–0.07 (0.04)		–0.02* (0.00)	–0.02* (0.00)	–0.01 (0.02)
Religiosity (Ref. nonreligious)								
Christian		0.04* (0.01)	0.04* (0.01)	0.01 (0.05)		0.05* (0.00)	0.05* (0.00)	–0.02 (0.03)
Other		0.02 (0.02)	0.01 (0.02)	–0.23 (0.15)		0.04* (0.01)	0.04* (0.01)	0.06 (0.09)
Include Personality × all other Covariates	<i>No</i>	<i>No</i>	<i>No</i>	<i>Yes</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>Yes</i>
Constant	0.49* (0.02)	0.41* (0.02)	0.32* (0.04)	0.34* (0.07)	0.65* (0.01)	0.63* (0.01)	0.63* (0.02)	0.71* (0.04)
<i>N</i>	7450	7448	7448	7448	7442	7440	7440	7440
<i>R</i> ²	0.02	0.05	0.06	0.07	0.08	0.19	0.20	0.21
ΔF			7.64	3.75			2.33	<i>ns</i>

Note. Ordinary least squares regression coefficients with standard errors reported in the parentheses. Interaction effects between Big Five traits and all covariates (model 4 and 8) are presented in Appendix D of the online supporting information. **p* < 0.05.

association between social ideology and the traits Conscientiousness and Extraversion mirrors the pattern documented for economic ideology. Moreover, there is a statistically significant positive correlation between social conservatism and Neuroticism, while—contrary to Study 1—Agreeableness is unrelated to social conservatism. Finally, controlling for the interaction effects between personality and the covariates, income does not attenuate the association between personality and social ideology (Table 2, model 8).

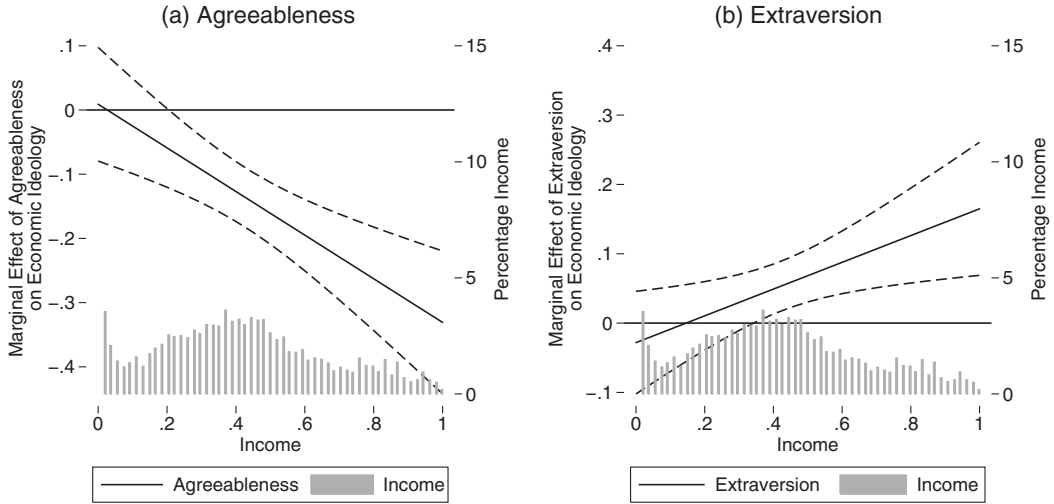


Figure 2. Marginal effect of personality on economic ideology in Study 2 (United Kingdom). Each panel illustrates the marginal effect of a personality trait on economic ideology over the full range of income (0–1). A positive marginal effect indicates a more conservative economic ideology, while a negative marginal effect indicates a more liberal economic ideology. The histogram in each panel indicates the distribution of income. Each panel is based on model 4 projected in Table 2.

Discussion

Study 2 mirrors the results from Study 1 and confirms that Conscientiousness is positively associated with economic conservatism, while Agreeableness and Neuroticism are negatively associated with economic conservatism. Moreover, low income attenuates the association between economic ideology and the traits Agreeableness and Extraversion. In order to further assess the robustness of my findings, I turn to another political context, namely the United States.

Study 3: United States

Methods

I employ the pre-election survey of the 2012 American National Election Survey (ANES, 2012). *Abt SRBI* conducted the face-to-face survey between September 8 and November 5, 2012 resulting in a 38% response rate, while *GfK* conducted the online survey between October 11 and November 6, 2012 resulting in a 2% response rate (ANES, 2012). In total, 5,914 citizens completed the ANES survey.

Economic ideology is measured using two items, namely “The government should take measures to reduce differences in income levels” scored on 5-point Likert scale ranging from 1 (*Agree strongly*) to 5 (*Disagree strongly*) and “Do you favor, oppose, or neither favor nor oppose the government trying to make the income difference smaller” with the answer options “Favor,” “Oppose,” or “Neither favor nor oppose.” The scale is internally consistent ($\alpha = 0.63$) and scored to range from liberal (0) to conservative economic ideology (1). Social ideology is measured using three items and scored to range from liberal (0) to conservative social ideology (1).

Personality is measured using the Ten-Item Personality Inventory which measures each trait using two items. The personality traits are scored to range from 0 to 1 (Gosling, Rentfrow, & Swann,

2003). Income is measured using the self-reported household income before taxes ranging from the lowest income (0) to highest income (1).⁷

Results

Table 3 (model 1–2) confirms there is a positive association between Conscientiousness and economic conservatism, while there are negative associations between economic conservatism and the traits Agreeableness and Neuroticism. Contrary to studies 1 and 2, Openness is negatively associated with economic conservatism, while Extraversion is positively associated with economic conservatism (see also Study 2).

Turning to the test of the interaction effects, I find evidence that low income attenuates the association between personality traits and economic ideology. Starting with Openness, model 3 (Table 3) shows that low income attenuates the association between Openness and economic ideology. However, in line with Study 2, low income does not attenuate the association between Openness and economic ideology once I control for the interaction between the personality traits and the other covariates in model 4 (Table 3).

Supporting the results of the first two studies, low income attenuates the association between Agreeableness and economic ideology. Figure 3 (panel A) shows that there is no association between Agreeableness and economic ideology among respondents with a low income, while there is a negative statistically significant marginal effect of Agreeableness on economic ideology among wealthier respondents.

As in Study 1 and Study 2, income does not attenuate the association between Conscientiousness and economic ideology. Yet low income does attenuate the association between Neuroticism and economic ideology. Figure 3 (panel B) demonstrates there is no statistically significant effect of Neuroticism on economic ideology among respondents with a low income, while there is a negative marginal effect of Neuroticism on economic ideology among wealthier respondents.

Turning to the social-ideology dimensions, there is again a strong negative association between Openness and social conservatism and a modest positive association between Conscientiousness and social conservatism (only in model 6). The other three traits are not associated with social ideology. The tests of the interaction effects indicate that there is an interaction effect between income and Agreeableness (Table 3, model 7–8). The association between Agreeableness and social ideology is positive but marginally significant among respondents with a very low income, while there is no marginal effect of Agreeableness on social ideology among respondents with a higher income.⁸ This counterintuitive finding is only marginally significant among a relatively small group of respondents and is therefore not given a lot of substantive meaning. Generally, the results indicate that low income attenuates the association between personality and economic ideology but not social ideology.

Discussion

Confirming the results in Study 1 and 2, there are direct associations between economic ideology and Conscientiousness, Agreeableness and Neuroticism. But in Study 3, Openness and Extraversion are also associated with economic conservatism. I find evidence in line with Study 1 and 2 that low income attenuates the association between Agreeableness and economic ideology. Low income also attenuates the association between Neuroticism and economic ideology. The associations between personality and economic ideology are distinct from the associations between personality and social ideology.

⁷ Appendix C in the online supporting information provides item wording and descriptive statistics.

⁸ See Appendix C (Figure C.1) in the online supporting information for a plot of the marginal effect.

Table 3. Personality, Income, and Ideology in Study 3 (United States)

	Economic Ideology				Social Ideology			
	(0 [<i>liberal</i>] to 1 [<i>conservative</i>])				(0 [<i>liberal</i>] to 1 [<i>conservative</i>])			
	1	2	3	4	5	6	7	8
Openness (0–1)	–0.21*	–0.20*	–0.12*	0.06	–0.24*	–0.19*	–0.18*	–0.12
	(0.03)	(0.03)	(0.04)	(0.10)	(0.02)	(0.02)	(0.04)	(0.07)
Conscientiousness (0–1)	0.14*	0.09*	0.04	–0.06	0.05	0.07*	0.02	–0.02
	(0.02)	(0.02)	(0.04)	(0.09)	(0.03)	(0.03)	(0.04)	(0.06)
Extraversion (0–1)	0.09*	0.08*	0.08	0.16	0.02	0.01	0.05*	0.08
	(0.03)	(0.03)	(0.05)	(0.09)	(0.02)	(0.01)	(0.02)	(0.06)
Agreeableness (0–1)	–0.06	–0.07*	0.01	–0.16	0.04	0.00	0.07	0.09
	(0.03)	(0.03)	(0.04)	(0.12)	(0.03)	(0.03)	(0.05)	(0.08)
Neuroticism (0–1)	–0.07*	–0.07*	0.01	–0.01	–0.00	–0.02	–0.05	–0.07
	(0.02)	(0.02)	(0.04)	(0.09)	(0.03)	(0.02)	(0.03)	(0.08)
Income (0–1)		0.14*	0.35*	0.39*		–0.04*	0.02	0.08
		(0.02)	(0.10)	(0.10)		(0.02)	(0.08)	(0.09)
Personality × Income								
Openness × Income			–0.17*	–0.07			–0.03	0.00
			(0.08)	(0.09)			(0.07)	(0.08)
Conscientiousness × Income			0.10	–0.00			0.10	0.03
			(0.08)	(0.08)			(0.06)	(0.06)
Extraversion × Income			–0.01	0.03			–0.09*	–0.10
			(0.07)	(0.08)			(0.04)	(0.05)
Agreeableness × Income			–0.17	–0.18*			–0.14*	–0.14*
			(0.08)	(0.09)			(0.06)	(0.06)
Neuroticism × Income			–0.17*	–0.24*			0.08	0.01
			(0.07)	(0.06)			(0.07)	(0.08)
Female (= 1)	–0.03*	–0.03*	–0.03*	0.12	–0.03*	–0.05*	–0.05*	0.07
	(0.01)	(0.01)	(0.01)	(0.08)	(0.01)	(0.01)	(0.01)	(0.05)
Age (1 = 17–20; 13 > 75)	0.01*	0.01*	0.01*	–0.01	0.01*	0.01*	0.01*	0.01
	(0.00)	(0.00)	(0.00)	(0.01)	(0.00)	(0.00)	(0.00)	(0.01)
Education (1 = less than high school; 5 = graduate degree)		0.00	0.00	0.02		–0.03*	–0.03*	–0.04
		(0.01)	(0.01)	(0.03)		(0.00)	(0.00)	(0.02)
Union member (= 1)		–0.07*	–0.07*	–0.02		–0.02*	–0.02*	–0.09
		(0.02)	(0.02)	(0.14)		(0.01)	(0.01)	(0.07)
Religiosity (Ref. nonreligious)								
Christian		0.06*	0.06*	–0.02		0.14*	0.14*	0.10*
		(0.01)	(0.01)	(0.06)		(0.01)	(0.01)	(0.04)
Other		0.04	0.04	–0.10		0.00	0.00	–0.29*
		(0.03)	(0.03)	(0.17)		(0.02)	(0.02)	(0.13)
<i>Include Personality X all other Covariates</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>Yes</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>Yes</i>
Constant	0.52*	0.45*	0.36*	0.40*	0.52*	0.54*	0.51*	0.48*
	(0.04)	(0.04)	(0.05)	(0.11)	(0.04)	(0.04)	(0.05)	(0.11)
<i>N</i>	5352	4778	4778	4778	5281	4733	4733	4733
<i>R</i> ²	0.04	0.07	0.07	0.08	0.05	0.16	0.16	0.17
<i>F</i> -test			2.91	2.97			<i>ns</i>	<i>ns</i>

Note. Ordinary least squares regression coefficients with standard errors—clustered at the state level—reported in parentheses. Interaction effects between Big Five traits and all covariates (model 4 and 8) are presented in Appendix D of the online supporting information. **p* < 0.05.

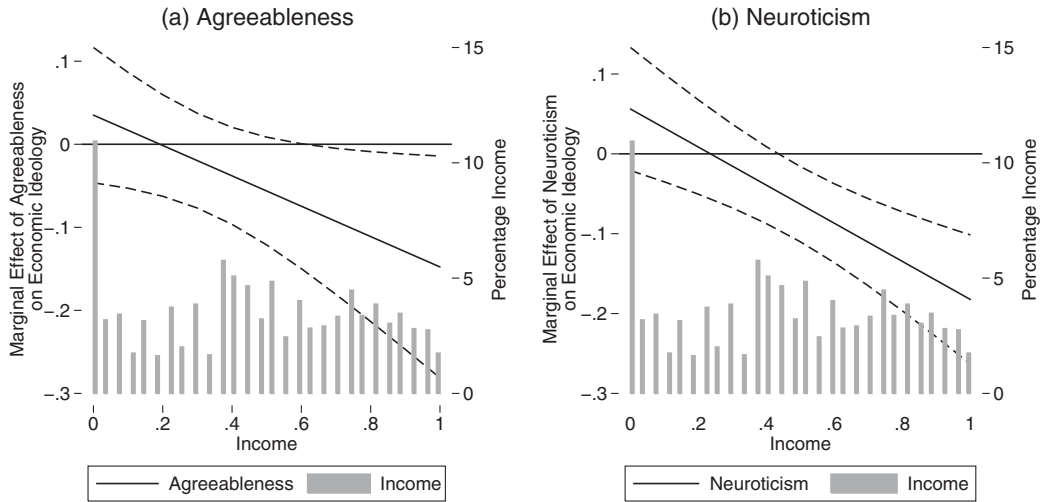


Figure 3. Marginal Effect of Personality on Economic Ideology in Study 3 (United States). Each panel illustrates the marginal effect of a personality trait on economic ideology over the full range of income (0–1). A positive marginal effect indicates a more conservative economic ideology, while a negative marginal effect indicates a more liberal economic ideology. The histogram in each panel indicates the distribution of income. Each panel is based on model 4 projected in Table 3.

General Discussion and Conclusion

In this study, I have addressed *whether* personality traits matter for economic ideology and *when* personality traits are more strongly or more weakly associated with economic ideology. I confirm that personality matters for economic ideology. Across three studies, Conscientiousness is positively associated with economic conservatism, while Agreeableness and Neuroticism are negative associated with economic conservatism. This is a different pattern of associations compared to the social-ideology dimension, which is characterized by consistent associations with the traits Openness and Conscientiousness. Thus, I support that economic ideology—at least to some extent—has a distinct set of psychological correlates compared to social ideology (Duckitt & Sibley, 2010; Feldman & Johnston, 2014).

Turning to the question of whether low income attenuates the association between personality and economic ideology, I—at least partly—confirm that low income attenuates the association between personality and economic ideology. Across three studies, low income attenuates the association between Agreeableness and economic ideology. Among people with a lower income, there is a weak negative association between economic conservatism and Agreeableness, while the negative association between Agreeableness and economic conservatism becomes stronger as income increases. Low income also attenuates the association between economic ideology and the traits Openness (Study 1), Extraversion (Study 2), and Neuroticism (Study 3). Importantly, this study shows that low income only attenuates the association between personality and economic ideology. In doing so, I provide evidence that income is not only a correlate of economic ideology. Dwelling upon the literature assessing the psychological consequences of scarcity (Haushofer & Fehr, 2014; Mani et al., 2013; Shah et al., 2012), this study illustrates that low income also attenuates the effect of personality on economic ideology.

There are at least three possible explanations for the inconsistencies I found for the interactions between income and the traits Openness, Extraversion, and Neuroticism across the three studies. *First*, I have taken care to create measurement equivalence across the studies. Yet a drawback of using

multiple secondary datasets is that there are small differences in the operationalization of the variables. These small differences could perhaps explain the different results across the studies. Future research using fully equivalent measures of the independent and dependent variable should be able to assess whether the here reported differences are due to small differences in the measurement of the variables included in the study.

Second, economic policies might have a different meaning across different political contexts. This might explain why the direct associations between personality and economic ideology sometimes differ across different published studies. Future research could theorize and assess if and to what extent economic policies are seen differently in different political contexts. This could lead to testable expectations about the extent to which personality traits—which are grossly comparable across Western countries—are associated with attitudes towards economic policies in some but not in other contexts.

Third, income might determine how citizens think about political issues and accordingly explain which personality traits are associated with the political issues. In the United States, for instance, individuals with a high income might observe liberal economic policies as ways to reduce the risks of an insecure job market or the free market. Accordingly, neurotic people with a high income will be more likely to support these policies. *Perhaps* people with a lower income do not observe economic policies among the lines of reducing insecurity, which could explain why Neuroticism is weakly associated with economic ideology among low-income earners. Taking this explanation one step further, this might explain the differences across the three studies reported here. If economic policies in Denmark and the United Kingdom are not associated with insecurity among the high-income earners, then this might explain why I did not observe that low income attenuates the association between Neuroticism and economic ideology in these countries. However, it's difficult to do more than speculate about this explanation and the country-level differences. Future research should explicitly assess whether income conditions the extent to which individuals observe political stimuli differently in different political contexts.

There are at least four additional opportunities for future research. *First*, the literature on the psychology of scarcity—as discussed in this study—offers new opportunities for the research on economic ideology. Specifically, I have shown that low income attenuates the association between—at least some—personality traits and economic ideology. Future research could theorize and assess to what extent low income attenuates the association between other factors associated with economic ideology such as humanitarianism (Feldman & Steenbergen, 2001), just world beliefs (Benabou & Tirole, 2006), altruism (Bechtel, Hainmueller, & Margalit, 2014), or beliefs about fairness (Fong, 2001).

Second, future research could theorize and assess to what extent income attenuates the association between psychological factors and other political outcomes. Personality traits have been associated with political participation (Schoen & Steinbrecher, 2013). Income—also identified as a correlate of political participation (Tolbert & McNeal, 2003)—attenuates the association between personality and political participation. Similarly, future research could develop arguments whether low income attenuates the association personality and voting behavior (Bakker, Klemmensen, Nørgaard, & Schumacher, 2016; Schoen & Schumann, 2007) or voting for specific parties such as populist parties (Bakker, Roo-duijn, & Schumacher, 2016). Accordingly, this study just marks the starting point.

Third, the scope of this argument could be tested in other political contexts. In Central and Eastern Europe, open-minded citizens seem less supportive of left-wing economic policies (Thorisdottir, Jost, Liviatan, & Shrout, 2007). To my best knowledge, there is no publicly available dataset—including a valid measure of the Big Five traits and economic ideology—available to test the robustness of my argument in these political contexts. However, it would be worth theorizing and assessing whether low income attenuates the association between personality and economic ideology in these political contexts.

Fourth, future research should consider the assumption that personality traits influence economic ideology. Support for this assumption is provided by the finding that childhood personality is

correlated with political ideology in adulthood (Fraley, Griffin, Belsky, & Roisman, 2012). Ideology might, however, also develop before adulthood (Hatemi et al., 2009). Longitudinal studies, for instance, could explore if and to what extent personality traits and political ideology influence each other from childhood into adulthood.

To conclude, this study shows personality matters for economic ideology, and its psychological roots are distinct from social ideology. Moreover, low income attenuates the association between some personality traits and economic ideology. In doing so, I add a boundary condition to the literature on the psychological roots of economic ideology.

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Supporting Information

Additional supporting information may be found in the online version of this article at the publisher's website:

Appendix A. Sample Description Study 1: Denmark

Appendix B. Sample Description Study 2: United Kingdom

Appendix C. Sample Description Study 3: United States

Appendix D. Full Interaction Models

Appendix E. Controlling for Political Interest

Appendix F. Controlling for Political Knowledge

Appendix G. Interaction Using Categorical Indicator of Income

Appendix H. Mediation Analyses

Appendix I. Personality a Moderator of the Effect of Income on Economic Ideology

Appendix J. Ordered Logistic Regression (UK sample)