Education, Militarism and Civil Wars

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Abstract

Prevailing explanations for why poorer countries are more likely to experience civil wars focus on the different opportunities facing potential insurgents in poor and rich countries. This paper examines whether perceptions of military capabilities may also contribute to this relationship. Micro data from a large set of countries suggest that poverty and especially poor education are very often closely associated with confidence in the military. Cross-country evidence is consistent with the hypothesis that such confidence at the national level accounts for part of the association between income per capita and the incidence of civil wars.

It is doubtful if there was any war, since 1700, in which initial hopes were low on both sides. [...] This recurring optimism is a vital prelude to war. Anything which increases that optimism is a cause of war.

— Geoffrey Blainey, *The Causes of War* (1988, 53).

The social situation of the lower strata, particularly in poorer countries with low levels of education, predisposes them to view politics as black and white, good and evil. Consequently, other things being equal, they should be more likely than other strata to prefer extremist movements which suggest easy and quick solutions to social problems and have a rigid outlook.

— Seymour Martin Lipset, *Political Man* (1960, 100).

1. Introduction

Civil wars account for most of today's armed conflicts and are responsible for an enormous amount of human suffering, either directly caused by warfare or indirectly resulting from the wars' devastating economic consequences. The academic literature on the correlates of civil wars seems to have reached a consensus that civil wars are much more likely to occur in poor countries than in rich ones. This paper attempts to contribute to our understanding of this link.[1]

Several mechanisms have been proposed to explain why countries with low income per capita are more likely to experience civil wars. Collier and Hoeffler (2004) emphasize the role of income per capita as capturing the opportunity cost of joining an insurgency. Low per capita income thus facilitates conflict by making rebellion cheaper. Fearon and Laitin (2003), while finding a similar relationship between GDP per capita and civil wars, argue that low GDP per

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[1] Sambanis (2002), Humphreys (2003) and Blattman and Miguel (2008) survey the literature. The relationship between income per capita and the risk of civil war is probably the strongest and most robust finding of this literature, see Collier and Hoeffler (2004), Fearon and Laitin (2003), Fearon et al. (2007), Hegre and Sambanis (2006) and Miguel et al. (2004). Of course, as mentioned above war also affects economic outcomes; see e.g. Murdoch and Sandler (2002). Miguel et al. (2004) provide a discussion of the resulting endogeneity issue and a partial solution, based on examining the effect of shocks to economic growth caused by exogenous variation in rainfall.

capita is related to weak states, which in turn attract insurgency: financially, organizationally, and politically weak central governments render insurgency more feasible and attractive.

A different type of explanation draws on Lipset's (1960) influential account of the conditions that promote tolerant and democratic tendencies. In a nutshell, Lipset argued that due to rough upbringing, low education, social isolation and economic insecurity, the poor are more likely to hold authoritarian attitudes, to seek simplistic solutions to complex problems and to attempt to resolve differences through the use of force rather than through negotiations.[2] A similar line of reasoning may be applied to civil conflicts. Specifically, suppose that due to similar factors, poorer people are more prone to having a "militaristic" bias – which throughout this paper will simply mean that they are over-confident in the ability of their side to successfully resolve a conflict militarily.[3] Suppose further that waging and sustaining long military campaigns require considerable popular support. Then resorting to force in the face of a given dispute can be more likely when the disputing parties are poorer.

This paper empirically examines this idea as it applies to the majority side of the conflict (rather than the minority/rebel side). That is, it seeks to examine whether poverty, and particularly poor education, affect the way the majority population evaluates its armed forces and whether high confidence in the armed forces may increase the likelihood of using military force to settle domestic disputes.

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[2] In a similar vein, survey evidence indicates that lower social strata (poorly educated, manual workers or unemployed) are more likely to express hostility towards immigrants, hold authoritarian attitudes and vote for extreme right parties (Kitschelt 1996; Ignazi 2003; Lubbers et al. 2002). Education in particular has long been viewed not just as a source of higher productivity, but also as crucial for developing democratic attitudes (McDonnell et al. 2000), and a substantial literature documents the inverse relationship between education and authoritarian and intolerant attitudes. See Houtman (2003) for a review of some of this literature. For evidence on the link between education and democracy see Przeworski et al. (2000), Glaeser et al. (2004) and Acemoglu et al. (2005).

[3] On the link between confidence in the army and authoritarian attitudes see Fleishman (1988) and Kitschelt (1996).

To clarify the proposed explanation, it is useful to recall Hirshleifer's (1995) distinction between three of the basic sources of conflict. The two panels of Figure 1 are adapted from his paper. The axes represent the incomes of the opposing parties (Blue and Red), but one may think of them as encompassing other issues under dispute (e.g. the allocation of sovereignty over a territory). The curve QQ bounds the settlement opportunity set - what the parties can jointly attain by peaceful agreement. The points P_B and P_R indicate, in contrast, the parties' separate perceptions of the income distribution that would result in case of war. U_B and U_R are Blue's and Red's indifference curves. The shaded area is then the Potential Settlement Region (PSR). The larger this region, the more likely it is that an agreement will be reached.

Figure 1 points to three sources of conflict. The first is *opportunities*, captured by the shape of the settlement opportunities set and its position relative to the actual expected income distribution in case of war. Panel (1a) for example indicates large gains from a peaceful settlement. The second is *preferences* captured by the slopes of the indifference curves (a concern for relative position for example implies positively sloped indifference curves and less scope for settlement, see Congleton and Fudulu 1996).

The third source of conflict is *perceptions*. In panel (1a) the perceived incomes in the event of war are relatively small, and also agreed ($P_B = P_R$). In panel (1b) opportunities and preferences are unchanged, but the two sides now have divergent and optimistic perceptions of the outcome of war, such that each believes he will do relatively better. This shrinks the Potential Settlement Region, and possibly eliminates it completely. This possibility is closely related to the well-documented "self-serving bias" and its role in producing bargaining impasse: even when disputing parties possess identical information, they often estimate the alternatives to negotiated

settlements in "self-serving" ways, which in turn decreases the likelihood of reaching a settlement (see Babcock and Loewenstein 1997 for a review).

Hirshleifer's framework is convenient for situating the explanation examined in this paper in the context of other explanations of the link between income per capita and civil wars. In particular, the opportunity-cost and weak-states explanations focus on the opportunities presented by war and peace. The Lipsetian tradition, however, suggests that this link may also be driven by perceptions. In particular, poverty may be conducive to overly optimistic perceptions of the military capabilities of one's party. This may be due to any of the mechanisms proposed by Lipset or, perhaps, to a flawed ability to learn the true determinants of military capabilities, that stems from poor education. In either case, Blue's perceived payoff in case of war is higher the poorer Blue is (and similarly for Red). Graphically, P_B in Figure 1 shifts down and to the right of the true expected income distribution in case of war.[4] Even if preferences and opportunities were unaffected by income, this divergence of beliefs would diminish the scope for a peaceful settlement.[5] This channel can therefore complement the opportunity-based reasons for why poor countries are more prone to civil wars.[6]

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[4] To take the simplest example, normalize the utility from the issue under dispute to 1, let q be the probability of Blue winning a war and assume that war leads to a loss of δ and that the winner takes all. In that case if Blue holds the true probability then: $P_B = (E(I_B|war), E(I_R|war)) = (q-\delta, 1-q-\delta)$. Thus if the perception of q is biased upward, P_B shifts down and to the right. It is important to emphasize that this argument is based on *biased* beliefs, and not on correct beliefs based on privately held information (where Aumann's 1976 argument could be applied).

[5] See Babcock and Loewenstein (1997) for experimental evidence that self-serving and divergent beliefs about the outcome of litigation leads to bargaining impasse and the destruction of surplus. Smith and Stam (2004) argue that divergent perceptions about the outcome of war stemming from "underlying differences in how actors think the world works" (formally, from different priors), are crucial for understanding wars. The current paper suggests that income and education can help account for such divergence of beliefs.

[6] It is worth noting that according to the proposed explanation, poverty does not necessarily encourage individuals to opt for violent actions themselves, say by lowering opportunity costs. Nor indeed does the explanation preclude militias from selectively recruiting the relatively educated (See Bueno de Mesquita 2005, but note that in large-scale civil wars such selection processes may be less important than in terrorist activities). Rather, poverty and ignorance can help generate and sustain popular support for – or curtail opposition to – military campaigns, even if the poorest supporters of war are not the ones most likely to actually fight. This can help reconcile the mixed evidence on the relationship between poverty and participation in militant activities (Berrebi 2003; Humphreys and Weinstein, 2006; Krueger and Maleckova, 2003), with the observed strong correlation between income per capita and civil wars.

Ideally, to empirically test this argument, one would use data on perceptions of the likelihood of military success by both rebel (and, crucially, potentially rebellious) groups and the majority population. While comparable data on the perceptions prevalent in various rebel groups are hard to obtain, national surveys measuring the popular confidence in the armed forces using a comparable method are available from a broad range of countries. Consequently, it is possible to closely examine whether the views expressed *by one side* of potential conflicts – the majority population – are consistent with the hypothesis that poorer people are more likely to have higher confidence in their army. It is also possible to investigate whether the national levels of such confidence are systematically related to the risk of civil wars. Thus, rather than focusing on the rebel side of the conflict, this paper focuses on the government side or, more precisely, on the population from which it draws its support when deciding whether to use military force or compromise with a dissenting group.

In terms of empirical strategy, this paper expands the existing cross country analysis of the risk of civil wars in two ways. First, the cross country analysis is augmented with measures of popular confidence in the army, drawn from the World Values Survey. Second, and most importantly, the determinants of confidence in the army are examined at the *individual* level within a broad range of countries.

The main findings of the paper are as follows. First, at the country level the extent of popular confidence in the army is strongly related to the incidence of civil wars in subsequent years, and can account for part of the relationship between the latter and GDP per capita. This pattern is not observed with respect to confidence in other state institutions.

Second, within most countries, poorer individuals are more likely to have high confidence in the army. This relationship is present in a large and diverse set of countries – rich

and poor, peaceful and violent. Since the capabilities of a given country's army at a given time are fixed, this suggests that poverty is indeed related to *over*-confidence in the army.

Third, several possible factors that may underlie the relationship between income and confidence in the army at the individual level are explored. By far the most prominent factor among these turns out to be education. Controlling for income, less educated people tend to have more confidence in their nation's armed forces. This pattern is found, albeit to varying degrees, in almost all the countries studied. This result is rather striking since the analysis uses a very crude measure of education – namely years of schooling – and ignores differences in the curriculum. It is thus not unreasonable to suspect that the results reported here actually understate the effects of education. By contrast, there is little evidence for effects of economic insecurity (as captured by unemployment) on confidence in the army, once income is controlled for. There is some suggestive evidence for an effect of social isolation as captured by living in small towns or villages.

Finally, the cross-country data on civil war incidence from 1960-2000 are reexamined in light of the individual level findings. As expected, the accumulated stock of national educational attainment is strongly related to the risk of civil wars. Further, the estimated effect of GDP per capita is dramatically diminished once the population's educational attainment is accounted for. Quantitatively, the estimates suggest that the militarism channel could be responsible for about a quarter of the effect of education on civil war incidence.

The rest of the paper proceeds as follows. Section 2 replicates cross country results on the correlates of civil war, and introduces a measure of confidence in the armed forces to the analysis. Section 3 uses micro data from 40 national surveys during the 1990's to examine whether the relationship between income and confidence in the army holds at the individual level

within a given country, and is not entirely due to aggregate country effects. Section 4 explores some of the possible mechanisms for the relationship between militarism and income. Section 5 revisits the cross country analysis of civil war incidence to examine the effect of education. Section 6 concludes.

2. Cross-country patterns

Figure 2 shows the relationship between prevalence of confidence in the armed forces and GDP per capita. The level of confidence is taken from the second and third waves of the World Values Survey (Inglehart et al. 2000, henceforth WVS), performed in the early and mid 1990's. The figure suggests that some of the observed correlation between GDP per capita and civil wars might indeed be due to the former picking up the effect of confidence in the armed forces, when it is omitted from the analysis. This section explores that possibility, using Fearon and Laitin (2003) (henceforth FL) as the point of reference.[7]

2.1 Data

The data to be used are essentially those used in FL augmented by measures of confidence in the armed forces taken form the WVS. FL code as *Civil Wars (FL)* conflicts between a state and organized, nonstate groups who sought to take control of a government or of a region, or to use violence to change government policies; where the conflict killed at least 1,000 over its course, with a yearly average of at least 100; and where at least 100 were killed on both sides (see FL for details).[8] Confidence in the army is measured by the proportion of the population professing the

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[7] Results are qualitatively similar when using the PRIO Armed Conflicts Dataset. These results are not reported here for lack of space, but are available upon request.

[8] Applying the FL coding results in the following countries and year(s) of WVS data, being coded as experiencing civil war within the five years following the year in which the survey was conducted: Bangladesh (96), Britain (90), China (90), Colombia (97), India (90, 96), Pakistan (96), Philippines (96), Russia (90, 95), South Africa (90),

highest level of confidence in the armed forces, taken from the WVS.[9] Detailed information on the variables and the countries participating in the analysis is in the appendix.

It should be emphasized that civil wars in Sub-Sahara-Africa (SSA) are practically absent from the analysis to be performed here, as Nigeria, Ghana and South-Africa are the only SSA countries covered. It should similarly be kept in mind that the sample used in this section is much smaller than the samples typically used in the literature on the correlates of civil war, which often employ data from most of the post WWII period, and over 150 countries.[10] Using WVS data reduces these to only two periods with thirty to forty (often different) countries in each. Section 5, however, will revisit the large-sample results in light of the individual level findings.

Table 1 provides descriptive statistics. For comparison purposes, it also presents the same statistics from the complete FL data set from the same periods. As can readily be seen, the sample to be used here has a higher representation of relatively rich and democratic countries. It also has a lower proportion of civil wars.

2.2 Results

Results are from a linear probability model (LPM), estimated by OLS.[11] The dependent variable is the incidence of civil war, namely the probability of observing either a new civil war or the continuation of an ongoing war or both (this follows Elbadawi and Sambanis 2002 and Miguel et

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Turkey (90, 96). The analysis is hardly affected by using only one subsequent year. Indeed the only case where civil war occurred more than one year after the survey is Russia 1990.

[9] The use of the WVS relies on the premise that the sample universe excludes the potentially rebellious groups in each country, so that the samples are for the most part drawn from the majority population from which the central government draws its support. This premise would not apply to several countries experiencing civil wars (notably in Africa), where no dominant central government exists. However, these countries do not take part in the analysis using confidence in the army. See Appendix B for the list of countries participating in the analysis.

[10] Thus, FL, employing annual data, use between 5100 to 6400 data points. Collier and Hoeffler (2004), working with five-year intervals, use between 600 to 800 data points (country-year) in most regressions.

[11] LPM estimates are reported mainly for ease of interpretation. Where probit models could be identified, the estimated marginal effects at the means were for the most part almost identical to the LPM estimates (maximum likelihood estimation of probit or logit models cannot identify a few specifications, since some outcomes are completely determined by the various dummy variables).

al. 2004). Incidence is measured during the five years following the year in which the explanatory variables are measured. Regression error terms are allowed to be heteroskedastic and correlated across years within countries.

The results are presented in Table 2. The baseline specification (Columns 1-2) is based on FL.[12] The sample of countries with both WVS and FL data available consists of 71 country-years. To assess the comparability of the results obtained from this small sample to the larger-sample results in the literature, the first column shows the results of estimating the baseline specification using the FL sample from 1945-1999.

Comparing the first two columns reveals a qualitatively similar pattern despite the much smaller sample in the second. There are, however, some significant differences in the magnitude of the estimated effects of GDP and population size. The results in Column (2) are also in line with the results reported by FL (although the dependent variable there is civil war *onset)*. GDP per capita has a negative effect and population size a positive effect. Rough terrain – captured by percentage of the country that is mountainous – seems to have a weak positive effect on civil war incidence.[13] Being an oil exporter also seems to have a weak positive effect, consistent with Collier and Hoeffler's (2004) results. As in FL, state contiguity and levels of ethnic and religious fractionalizations are not very strongly related to the risk of civil wars, when other features – in particular income – are controlled for. Consistent with Hegre et al. (2001), the Polity index of democracy is estimated to have a hump-shaped effect: regimes intermediate between democracy

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[12] Following Hegre et al. (2001) a quadratic term for the democracy variable is added. At the same time three variables are dropped from the analysis: The dummy used by FL for new states does not vary in this sample and is hence dropped. The dummy for prior war is dropped since the dependent variable is not the start of a *new* war. Finally, the dummy variable for political instability in period 0 is dropped due to the clear risk of endogeneity. Including this last variable however does not alter the results.

[13] FL interpret the rough terrain effect as capturing the ability of rebels to hide from government forces. An alternative explanation would have to do with the extent of trade within the country. On international trade and interstate war see Martin et al. (2005).

and autocracy have a higher propensity for conflict than either extreme (but see Vreeland 2008 on the interpretation of this estimate).

Column (3) introduces popular confidence in the army to the analysis, keeping the sample fixed. The association of this variable with war incidence is positive, large and statistically significant. A percentage point increase in the population with high confidence in the army is associated with a percentage point increase in the risk of civil war, other things equal. Note also the substantial improvement in the fit of the regression: after including the confidence in the army variable, the R^2 increases from 0.38 to 0.49. The point to emphasize, however, is that the estimated marginal effect of log GDP per capita is reduced significantly from -0.17 to -0.11, and loses statistical significance. This result is consistent with the claim that part of the observed relation between income per capita and civil war is due to the correlation between income and militarism.[14]

As with most cross-country regressions, a causal link between confidence in the army and civil war risk cannot be established based on these regressions alone. One plausible reason is that in countries experiencing war, support for the army may tend to rise (a "rally-around-the-flag" effect), which can be reflected in the reported confidence in the army.[15] If this is the case, then it is very hard to separate such effects from the effect these attitudes in turn have on the eruption or perpetuation of the war. This issue is partly addressed by the use of explanatory variables at year $t = 0$ to explain civil war incidence in the ensuing five years $t \ \varepsilon \ \{1,2,3,4,5\}$. This approach

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[14] Note also the similar outcome with respect to the coefficient on population size. Confidence in the army is generally higher in larger nations, and when omitted from the analysis some of its effect may be picked up by population size.

[15] As emphasized by Bueno de Mesquita and Dickson (2004), a similar effect can also arise in the rebel population.

however cannot entirely solve the problem since a rally-around-the-flag effect may conceivably take place when people are *expecting* a war.[16]

One way to address this issue is to compare the estimated effect of confidence in the army to the effects of popular confidence in other state institutions – such as the central government, the police and the legal system – which presumably should also benefit from the same rally-around-the-flag effect. Such an analysis can also help us examine whether the above results capture the effect of a possible militaristic bias reflected in overconfidence in the army, or of confidence in institutions in general.

The main results are reported in Columns 4 and 5. Column 4 replaces confidence in the army with a similar measure of confidence in the police. The estimated effect is not significantly different from zero, and it does not seem to account for any of the relationship between civil war risk and GDP per capita. Column 5 reveals a similar result with respect to confidence in the civil service. This exercise was repeated with similar measures taken from the WVS for confidence in the churches, the press, the legal system, and major companies (results not shown).[17] None of these variables had a similarly positive effect on civil war incidence, and none could account for the effect of GDP per capita.

Column 6 checks the possibility that the effect of confidence in the army is related to the army's prominence as an employer. People who serve – or know other people that serve – in the

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[16] Similarly, this technique does not establish causal effects of GDP per capita, which is affected by expectations (e.g. due to investment decisions anticipating war a peace).

[17] Data on confidence in the central government are also available in some surveys, for a sample of 51 country-years. The effect of GDP is insignificant in this sample to begin with. Including a measure of confidence in the government yields a marginally significant positive effect (p=0.09). The estimated effect of GDP, however, is only made *more* negative in this regression.

armed forces, may be affected by that fact when stating their attitude toward the army.[18] Thus, the estimated effect of confidence in the army on civil wars may be picking up the effect of the size of the army relative to the labor force. Column 6 shows no evidence of such a channel. The estimated effect of relative army size on civil war risk is zero in the sample with the requisite data (68 countries).[19] Further, controlling for relative size of the military does not change the estimated effects of GDP per capita nor of confidence in the army.

Finally, the argument presented in the introduction focused on *over*-confidence in the military capabilities of one's armed forces. It is plausible, however, that the measure of confidence used so far reflects – at least in part – the actual military capabilities of one's country. This issue will be addressed below by examining the variation in confidence in the army within a given country at a given time. A complementary approach is to use some objective measure of military capabilities in order to assess over-confidence. A widely used (though hardly undisputed) measure of military capabilities is the Composite Index of National Capability (CINC) from the Correlates of War National Material Capabilities Data Set. A natural measure of over-confidence is then the amount of confidence not explained by the CINC. To operationalize this idea, the confidence variable from Column 3 is regressed on CINC and CINC-squared. The residuals from this regression then yield a measure of over-confidence.

Column 7 presents the results of replacing the confidence variable from Column 3 with the over-confidence variable. The estimated effect on civil war incidence is 0.93 – somewhat lower than the coefficient of 1.02 when using the confidence variable. Nonetheless, the

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[18] Across countries with available data on the size of the military (data from WDI, based on U.S. Department of State, Bureau of Verification and Compliance, World Military Expenditures and Arms Transfers) there is indeed a positive correlation between the relative size of the army and overall levels of confidence in the army. When controlling for GDP per capita, the effect of relative army size on confidence in the army is statistically insignificantly different from zero.

[19] Repeating the regression in Column 1 (using all country-years with available data) as well as the FL specification also revealed no effect of relative army size on the risk of civil war.

association is still large and highly statistically significant, and continues to account for much of the effect of GDP per capita.

To conclude, the analysis reported above suggests that confidence in the army may account for some of the previously observed relationship between poverty and civil war risk. Nonetheless, the relation between confidence and risk of war may be spurious. There may be other, unobserved, variables that are associated with both GDP per capita and popular confidence in the army, that also affect the risk of civil war. The next section examines this issue by using individual-level rather then country-level data.

3. Poverty and militarism at the individual level

Are the cross country results in Table 2 due exclusively to country-level factors? Is it simply the case that in rich countries people tend to have relatively lower confidence in the army than in poor countries – or does the relationship also hold at the individual level, in rich and in poor countries alike? This section addresses this question, postponing discussion of the possible mechanisms leading from poverty to confidence in the army to the next section.

3.1 Data

Data come from the WVS, second and third waves. The analysis is performed only on those surveys in which respondents were asked to indicate the exact bracket (in local currency) into which their household income fell, and where detailed data about those brackets is retrievable (see Appendix for details on the procedures used to estimate household income and household-size). These data are available for 40 national surveys conducted in a diverse set of 33 countries.

Table 3 presents summary statistics. Sample sizes vary from below 600 in Finland 1990 to over 3000 in Spain 1996, with an average of 1250 observations per sample. Median confidence in the army ranges from 2 (not very much) to 4 (a great deal) and the proportion with the highest level of confidence ranges from below 5% in Japan, the Baltic states and the Netherlands to over 60% in Turkey. Confidence in the army usually has within-country standard deviation of around 0.8. Data on household income is in local currency. In 1996 PPP dollars, income per household member ranges in these data from $300 to $40,000, and the country-means range from $1300 to $17,000.[20] Years of schooling are calculated by subtracting 7 years from the age at which the respondent left school. The resulting national means of years of schooling in these surveys are within 2 years from the Barro and Lee (2000) educational attainment data in all countries except in the Chile 1990 and Venezuela 1996 surveys, where the mean calculated years of schooling are significantly higher. Finally, the average age in these samples is usually around 45 years with standard deviation of 17, and the samples are for the most part balanced between genders.

3.2 Results

The results are summarized in Table 4. Column (1) shows ordered probit results, where the dependent variable is confidence in the army, which takes four possible values ordered from none at all to a great deal of confidence. For each survey, the table shows the estimated coefficient on log household income controlling for log of household size. The point estimates are mostly negative, suggesting a negative association of household income with the level of confidence in the army. Note that there is no clear difference in this relationship between richer and poorer countries. There is a strong negative relationship between income and confidence in

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[20] This excludes East European countries in 1990, for which no reliable PPP rates are available.

the army in Italy and Brazil, Bulgaria and Canada. Nor is the effect limited to a particular region or culture - the relationship is strong in Austria, Taiwan, Turkey, Russia and Spain. One should note however that roughly half of the estimated coefficients are not statistically different from zero, and a few of these actually have a positive point estimate. Some of these results may perhaps be attributed to the small samples (e.g. Finland) but there are probably other factors at work as well. In India for example, although confidence in the army is generally very high, most of the variation in confidence in the army in the 1990 survey seems to come from regional differences and not from differences in income or education.[21]

A minor difficulty with the ordered probit estimates is that it is difficult to interpret and compare the coefficients obtained from different regressions run on different surveys. Also, the results are not directly related to those presented in the previous section, where the measure of confidence was the frequency of the highest level of support for the army. To address these issues, Column 2 reports the results of estimating a linear probability model, with an indicator variable for the highest level of confidence in the armed forces as dependant variable. The overall picture is similar – 33 of the 40 point estimates are negative, with 22 significantly different from zero at 90% confidence or more.

To gain some feeling for the size of the effect, take the average effect of -0.35. This coefficient roughly means that an increase of 1% in household income (keeping household size fixed) is associated with a 0.35 percentage points decrease in the probability that the respondent has the highest level of confidence in the army. Consider the cross-country relationship between log income per capita and the proportion of the national population with highest level of confidence presented in Figure 2. The OLS estimated effect of income per capita on the

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[21] Residents of the north region have a significantly higher level of confidence in the army then do residents in the south, while residents of the east and west regions are in between.

proportion with highest confidence is -0.98. That is, the estimated effect of household income on confidence in the army is over a third of the effect observed at the cross-country level. This leaves plenty of room for other, national factors to simultaneously affect both average income and average confidence in the army. But the association at the individual level suggests that the cross country association is not entirely due to such factors. The next section examines more closely what might drive this relationship.

4. Why are Poor People more Militaristic?

In his account of "working class authoritarianism", Lipset (1960, ch. IV) points to several factors that may underlie the association between low class and authoritarian attitudes. Most prominent are:

1) Harsh upbringing and authoritarian family patterns.

2) Low education, promoting a simplified view of politics and a failure to understand the rationale underlying tolerance and compromise with people one disagrees with.

3) Economic insecurity that leads to high states of tension and the search for immediate solutions.

4) Isolation from the activities and controversies of the society at large that prevents the lower strata from acquiring the complex view of the political structure which makes understandable and necessary the norms of tolerance.

Subsequent sociological research on Lipset's thesis has reached a consensus that poor education is closely related to authoritarianism, intolerance of nonconformity, and racial prejudice (Houtman 2003). The other mechanisms proposed by Lipset remain more controversial. This

section offers a preliminary examination of whether some of these mechanisms might help explain the link between income and confidence in the army.

The analysis is performed survey by survey, using the data described above in Table 3. This holds constant any country-specific and time-specific variables (e.g. the country's history of conflicts) that may affect confidence and its relation to the explanatory variables. The first channel listed above cannot be addressed here, as the WVS provides no good measures of childhood experiences or family patterns. For the other three channels, the following proxies are used. Education is measured by years of schooling as described in section 3.1 above.[22] Economic insecurity is proxied by a dummy variable for current unemployment. Finally, isolation from the larger society is proxied by the size of the town where the interview was conducted. These are very crude measures. In particular, simply counting years of schooling without taking into account the nature of the curriculum is likely to provide an incomplete view of the effects of education (Sambanis 2004).

Figures 3.1 – 3.3 report the estimated effects of these variables on confidence in the army. The results are from OLS regressions similar to those reported in Column (2) of Table 4.[23] In all regressions, the dependent variable is a dummy variable for having the highest level ("a great deal") of confidence in the armed forces. All regressions control for log of household income and log of household size.[24] The figures show, for each national survey, the 95% confidence interval for the coefficient of interest as well as its point estimate.[25]

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[22] This is simply the age at which the respondent left school minus 7. Since only the within-country variation in this education measure is being exploited, country specific factors that affect e.g. the age people start school should not matter for estimating the effect of schooling.
[23] Ordered probits yield qualitatively similar results.
[24] Except for Taiwan 95 where no household size data are available.
[25] Confidence intervals are calculated using robust standard errors. Estimations correct for the individual level sampling weights provided by the WVS.

Consider first Figure 3.1, which shows the estimated effect of schooling on confidence in the army in 38 surveys (from 32 different countries). Not surprisingly, there is a lot of variation in the estimated effects of schooling, ranging from a very strong negative effect in Britain to a positive effect in India. The striking result, however, is that point estimates are negative in all but one country. The negative effect is statistically significant at the 5% level in just over half the surveys.

The average size of the effect is -.009, indicating that given income, one additional year of schooling is associated on average with a 0.9 percentage points reduction in the likelihood of having the highest confidence in the army. Using the cross-country results from the previous section (Column 3 of Table 2), a rough back-of-the-envelope calculation suggests that an additional year of schooling in the adult population could reduce the risk of civil war incidence – through the confidence in the army channel alone – by almost one percentage point.

Next, consider the effect of unemployment. According to Lipset's thesis, economic insecurity is conducive to simplistic, authoritarian and intolerant attitudes. To the extent that current unemployment captures a history of economic insecurity, we should expect a positive effect of unemployment on confidence in the army. As Figure 3.2 indicates, there is little evidence for a systematic positive effect of unemployment over and beyond the effect of income. The estimated effects of unemployment (relative to full employment) show no consistent pattern and the effect is statistically insignificant in almost all of the 40 surveys. This, of course, does not imply that the Lipsetian argument is altogether wrong: it may be that current unemployment simply adds little information on economic insecurity beyond what is already contained in the income data.

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Finally, in so far as the size of the town one lives in captures isolation from the rest of society, town-size should have a negative effect on militarism. The evidence here is mixed, as Figure 3.3 shows. While point estimates are negative in over two thirds of the surveys with the requisite data, most of the estimated effects are not statistically different from zero at the 5% level.

To what extent can these channels account for the association between income and confidence in the army reported in the previous section? Figure 4.1 reproduces the OLS results from Table 4 on the association between income and confidence. Since income is strongly correlated with schooling, one might suspect that part of the effects observed in Figure 4.1 are actually due to income picking up the effect of education. Figure 4.2 depicts the effect of income on confidence in the army when controlling for years of schooling. In all surveys except one (India 90), the estimated effect of income becomes less negative once schooling is controlled for. Indeed, as Figure 4.2 makes clear, several point estimates become positive after controlling for education, and the effect of income on confidence in the army becomes insignificantly different from zero in over half the surveys. Finally, figure 4.3 shows the result of adding town size to the model. The estimated effects of income are almost unaffected compared to those in figure 4.2.

Summing up, consistent with existing research on non-tolerant and authoritarian attitudes, education is strongly and negatively related to militaristic attitudes. Education also appears to be a major factor underlying the association between militaristic attitudes and income. Unemployment, in contrast, shows no general patterns. Residing in bigger towns seems to be unfavorable to militaristic attitudes, but the evidence is not conclusive.

5. Education, Militarism and Civil Wars

Micro data from a large set of countries are consistent with the claim that low education promotes militaristic attitudes. If militaristic attitudes contribute to war incidence, then in reduced form one should observe a negative relationship between the level of education of the adult population and the risk of civil war. This section briefly examines this relationship, keeping in mind that education is probably related to the risk of civil wars through various additional channels (see e.g. Collier and Hoeffler 2004).

Aggregate education data come from Barro and Lee (2000), who provide estimates of the stock of education in the population, namely the average years of schooling attained by the population aged over 15. The Barro and Lee data are available for a large set of countries at five-year intervals from 1960 to 2000.[26]

Table 5 examines the incidence of civil wars, using a specification similar to the ones used in Table 2. The first two columns use the entire sample of country-years with available educational attainment data. The results of the baseline specification using this sample (Column 1) are comparable to the results using the full 1945-1999 sample reported in Table 2, Column 1. In particular, GDP per capita is estimated to have a negative and highly statistically significant effect. Column 2 adds average educational attainment in the adult population. The estimated effect is negative and highly statistically significant. An increase of one year in the average schooling of the population is estimated to reduce the risk of civil war by 3.6 percentage points.

The rough calculation offered in the previous section (based on the association of schooling with confidence in the army and of the latter with civil war incidence), suggested that

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[26] Linear interpolations are used for specifications that require data for intermediate years. The results are qualitatively similar when using literacy rates (UNESCO, available from the World Development Indicators database), but the latter are available for a much smaller set of countries and years.

an additional year of schooling in the adult population could reduce the risk of civil war incidence through the confidence channel by close to one percentage point (keeping income per capita fixed). This is about a quarter of the estimated effect of education presented in Table 5.

Another striking result in Table 5 is that GDP per capita exhibits no statistically significant relationship with civil war incidence once the stock of national education is accounted for. The hump-shaped relationship between the Polity index of democracy and civil war incidence is, on the other hand, robust to the inclusion of the education variable.

The last three columns in Table 5 reconsider the results presented in section 2 regarding the effect of confidence in the army. The purpose is simply to check whether the estimated effect of confidence vanishes when controlling for educational attainment. Columns 3 and 4 replicate the results from Table 2, using the sample of country-years with both WVS and education data. Despite the smaller sample, the estimated effect of popular confidence in the army is of a similar magnitude and is statistically significant at the 5% level. Column 5 then controls for educational attainment. Remarkably, the estimated effect of confidence in the army is basically unaffected. In other words, there is no evidence that the estimated effect of militarism is only picking up some other effect of education on civil war incidence.

6. Conclusion

The Universal Declaration of Human Rights, adopted by the General Assembly of the United Nations following World War II, asserts that "Everyone has the right to education" (Article 26). It then states the objectives of education:

> "*Education shall be directed to the full development of the human personality and to the strengthening of respect for human rights and fundamental freedoms. It shall promote understanding, tolerance and friendship among all nations, racial or religious groups, and shall further the activities of the United Nations for the maintenance of peace.*"

The evidence presented in this paper, tentative though it is, suggests that the hope that education will promote peace is not entirely naïve. Indeed, the evidence appears supportive of the notion that education can be conducive to peace not only through direct economic channels – e.g. by increasing productivity and hence the opportunity costs of insurgency and the capacity of the state – but also through mitigating militaristic overconfidence. Even without taking into account what is being taught in schools, education seems to exert a moderating effect on the confidence individuals have in their army, in almost all the countries studied. Furthermore, controlling for the major factors previously found to be related to civil war incidence, countries with higher levels of confidence in the army are more likely to experience societal warfare.

These results appear supportive of the claim that part of the reason why poor countries are more prone to civil war is over-confidence in military solutions, enhanced by lack of education. The precise channels that lead poor and uneducated people to have more confidence in the army remain the subject for further research.

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APPENDIX

A. Definitions of Variables used in the Cross-Country Regressions

Variable	Source	Details
Average schooling	Barro and Lee (2000)	Years of schooling of the total population aged over 15. Calculations by author: linear interpolation in between years ending in 0 and 5.
Confidence in Army	WVS, waves 2 and 3 (Inglehart et al. 2000).	Percentage of the population reporting "a great deal" of confidence in the armed forces, in response to the following question: "I am going to name a number of organizations. For each one, could you tell me how much confidence you have in them: is it a great deal of confidence, quite a lot of confidence, not very much confidence or none at all?"
Democracy	Fearon and Laitin (2003)	Polity IV measure (lagged 1 year). Varies from -10 to 10.
Ethnic fractionalization	Fearon and Laitin (2003)	Ethnolinguistic fractionalization (ELF) index based on data from Atlas Narodov Mira 1964, which gives the probability that two randomly drawn individuals in a country are from different ethnolinguistic groups.
Instability	Fearon and Laitin (2003)	Dummy variable indicating whether the country had a three-or greater change on the Polity IV regime index in any of the three years prior to the country-year in question.
Military Personnel	WDI	Military personnel, % of total labor force.
Mountainous terrain	Fearon and Laitin (2003)	Proportion of the country that is "mountainous" according to the codings of geographer A.J. Gerard.
Noncontiguous state	Fearon and Laitin (2003)	Countries with territory holding at least 10,000 people and separated from the land area containing the capital city either by land or by 100 km of water.
Oil exporter	Fearon and Laitin (2003)	Fuel exports as percentage of merchandise export greater than 33%. (WDI data).
Over-confidence in Army	WVS, waves 2 and 3 (Inglehart et al. 2000); Correlates of War Project, National Material Capabilities Data set Version 3.02	Residual from regressing the Confidence in Army variable (defined above) on the Composite Index of National Capability (CINC) and CINC squared.
Population	Fearon and Laitin (2003)	PWT 5.6 if available, then WDI 2001, then COW. Measured in 1000s.
Real GDP per-capita	Fearon & Laitin (2003)	PWT 5.6 if available, and then authors' imputations derived from WDI 2001 growth rates and COW energy consumption data.
Religious fractionalization	Fearon and Laitin (2003)	Analogous to ELF, from the CIA Factbook.

B. Countries included in the cross-country regressions with WVS data

Argentina 90	Colombia 97*	Lithuania 96	S Africa 90*
Argentina 95	Czech 90	Mexico 90	S Africa 95
Armenia 95	Denmark 90	Mexico 96	S Korea 90
Australia 95	Dominican Rep 96	Moldova 96	S Korea 96
Austria 90	Estonia 96	Netherlands 90	Spain 90
Azerbaijan 96	Finland 90	Nigeria 90	Spain 96
Bangladesh 96*	Finland 96	Nigeria 95	Sweden 90
Belarus 96	France 90	Norway 90	Sweden 96
Belgium 90	Georgia 96	Norway 96	Switzerland 96
Brazil 90	Ghana 95	Pakistan 96*	Taiwan 95
Brazil 96	Hungary 90	Peru 96	Turkey 90*
Britain 90*	India 90*	Philippines 96*	Turkey 96*
Bulgaria 90	India 96*	Poland 90	Ukraine 96
Bulgaria 98	Ireland 90	Poland 96	Uruguay 96
Canada 90	Italy 90	Portugal 90	USA 90
Chile 90	Japan 90	Romania 90	USA 95
Chile 96	Japan 95	Russia 90*	Venezuela 96
China 90*	Latvia 96	Russia 95*	

* Experienced civil war within the five years following the year in which the survey was conducted.

C. WVS Household Income Data:

All WVS Data are from waves 2 and 3. The WVS reports a measure of total, pre-tax household income "counting all wages, salaries, pensions and other incomes that come in... before taxes and other deductions". For most countries, household income is reported in ten categories, usually running from 1 to 10, where the lowest and uppermost categories are open ended.[27]. The data used for individual level analysis in this paper are only from those surveys where the income categories cutoff points are known. A minor problem is assigning individuals a level of income based on the reported categories, that is, of assigning a specific point within the reported interval. This is done here by assuming a log-normal distribution of household income within each nation and wave, and estimating the parameters of the distribution by maximum likelihood. Once one has the distribution, each individual is assigned the median point conditional on the interval within which her income lies. All calculations were performed using the sampling weights in the relevant survey.

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[27] The USA in the second wave has several open categories at the top. This does not alter the form of the likelihood function.

D. WVS Household Size Data

Information related to household size in the world values surveys is indirectly available from the following questions:

- Have you had any children? If yes, how many?
- How many of them are still living at home? [asked in second wave only]
- Do you live with your parents?
- Are you currently....(1) Married; (2) Living as married; (3) Divorced; (4) Separated; (5) Widowed; (6) Single

Since in the second wave we have data on number of children still living at home, we can reasonably impute household size for most respondents. However, there is no obvious way to predict household size for young respondents living with their parents. For the third wave we do the following. First we estimate for each country participating in the second wave household-size equations, using as regressors the above mentioned questions that appear in both waves, as well as sex, income and religion (the fit is good in all regressions: R^2 around 0.7). We then use the obtained coefficients to predict household size for wave 3. For countries that did not participate in the second wave we use coefficients from neighboring countries with similar distribution of number of children. Once again, household size cannot be predicted for young respondents living with parents. Missing values for household size are dummied out in the regressions.

Table 1: Summary Statistics, Cross Country Data

	WVS sample			FL sample, 1990 and 1995		
	Mean	SD	N	Mean	SD	N
Civil war(FL)	0.183	0.39	71	0.242	0.429	293
Confidence in Army	0.208	0.161	71			
GDP per-capita (FL, 1000s)	7.276	5.355	71	4.655	4.842	276
log population	10.198	1.471	71	9.218	1.447	296
log(% mountainous)	2.189	1.442	71	2.095	1.429	296
Noncontiguous state	0.31	0.466	71	0.159	0.366	296
Oil exporter	0.127	0.335	71	0.159	0.366	296
Democracy	6.662	4.687	71	1.704	7.211	291
Ethnic fractionalization	0.309	0.264	71	0.407	0.283	296
Religious fractionalization	0.334	0.198	71	0.383	0.218	296
Military personnel	1.431	0.9	68	2.019	2.781	281

Note: The last 3 columns are presented for comparison purposes only. They present statistics from the sample of countries included in the FL dataset at the years most 2nd and 3rd wave WVS surveys were conducted.

Table 2: Confidence in the Army and Civil War Incidence

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
log GDP per capita	-0.087***	-0.173**	-0.105	-0.176**	-0.173**	-0.133*	-0.101
	(0.023)	(0.079)	(0.078)	(0.078)	(0.074)	(0.077)	(0.077)
log population	0.049***	0.107***	0.055	0.103**	0.107**	0.043	0.086**
	(0.015)	(0.039)	(0.046)	(0.039)	(0.041)	(0.047)	(0.042)
log (% mountainous)	0.025*	0.014	0.002	0.014	0.013	0.013	0.002
	(0.014)	(0.037)	(0.032)	(0.036)	(0.042)	(0.032)	(0.032)
Noncontiguous state	0.097	0.122	0.180	0.137	0.122	0.168	0.193
	(0.071)	(0.126)	(0.120)	(0.121)	(0.124)	(0.117)	(0.124)
Oil exporter	0.090*	0.055	0.076	0.051	0.056	0.010	0.081
	(0.053)	(0.174)	(0.161)	(0.181)	(0.177)	(0.158)	(0.176)
Democracy (Polity IV)	0.005**	0.021	0.021	0.023	0.021	0.019	0.021
	(0.002)	(0.015)	(0.015)	(0.016)	(0.015)	(0.015)	(0.016)
Democracy squared	-0.002**	-0.001	-0.001	-0.001	-0.001	0.000	-0.001
	(0.001)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Ethnic fractionalization	0.133*	0.041	0.077	0.002	0.041	0.042	0.056
	(0.080)	(0.212)	(0.231)	(0.210)	(0.214)	(0.230)	(0.231)
Religious fractionalization	-0.004	-0.018	-0.085	-0.039	-0.018	-0.108	-0.047
	(0.096)	(0.209)	(0.200)	(0.203)	(0.213)	(0.193)	(0.210)
Confidence in Army			1.022***			1.039***	
			(0.331)			(0.350)	
Confidence in Police				0.662			
				(0.611)			
Confidence in Civil Service					-0.021		
					(0.634)		
Military personnel						-0.032	
						(0.052)	
Over-confidence in Army							0.933***
							(0.335)
Observations	1223	71	71	71	71	68	71
R-squared	0.17	0.38	0.49	0.40	0.38	0.49	0.47

Notes: OLS estimates from a linear probability model, robust standard errors in parentheses. Regression disturbance terms are clustered at the country level. Dependent variable is 1 for country years in which a civil war is observed in the *subsequent* 5 years and zero otherwise. Column 1 estimated at five-year intervals, Columns 2-5 estimated using countries with requisite data from WVS 1990 and 1995 waves. Confidence in Army/Police/Civil-Service is the estimated proportion of the population expressing "a great deal of confidence" in these institutions (the highest degree of confidence on a scale of 1 to 4). Over-confidence is the residual from regressing confidence on the Composite Index of National Capability . GDP per-capita data are from FL (based on PWT 5.6). Democracy is taken from Polity IV and varies from -10 to 10. Noncontiguous state and Oil Exporter are dummy variables. Military personnel in % of total labor force.
* significant at 10%; ** significant at 5%; *** significant at 1%

Table 3: Summary Statistics, Individual Level Data

	N	Confidence in army			% highest confidence	ln (income)	
		median	Mean	sd		mean	sd
Austria 90	1402	2	2.15	0.78	0.05	12.31	0.53
Belarus 90	1000	3	2.77	0.87	0.22	7.3	0.43
Belgium 90	1696	2	2.07	0.86	0.05	13.46	0.46
Brazil 90	1673	3	2.88	1	0.33	13.51	0.97
Britain 90	1095	3	3.13	0.78	0.34	9.29	0.78
Bulgaria 98	838	3	3.18	0.82	0.39	14.53	0.79
Canada 90	1451	3	2.58	0.78	0.1	10.44	0.61
Chile 90	1470	2	2.38	0.96	0.16	13.32	0.76
Croatia 95	1164	3	3.13	0.79	0.34	10.14	0.68
E Germany 90	1328	2	1.73	0.73	0.01	9.88	0.39
Estonia 90	994	2	1.84	0.87	0.04	7.21	0.48
Estonia 96	941	2	2.4	0.82	0.06	10.15	0.49
Finland 90	565	3	2.62	0.8	0.13	11.85	0.51
Hungary 90	963	3	2.52	0.79	0.09	12.17	0.57
India 90	2418	4	3.44	0.71	0.55	9.81	0.51
Italy 90	1421	2	2.36	0.87	0.08	16.96	0.61
Japan 90	886	2	2.14	0.68	0.03	15.49	0.49
Japan 95	795	3	2.65	0.68	0.07	15.69	0.44
Latvia 90	869	2	1.83	0.93	0.06	7.13	0.51
Latvia 96	1124	2	2.08	0.8	0.02	7.36	0.6
Lithuania 90	984	2	1.93	0.78	0.03	8.2	0.6
Macedonia 97	601	2	2.46	0.96	0.19	11.76	0.83
Mexico 90	1445	2	2.35	0.91	0.09	16.17	1.16
Montenegro 96	211	3	2.75	0.94	0.25	9.45	0.68
Netherlands 90	787	2	2.14	0.75	0.03	10.65	0.53
Portugal 90	1109	2	2.43	0.78	0.07	13.8	0.66
Russia 90	1622	3	2.97	0.91	0.33	7.31	0.48
Russia 95	1869	3	2.91	0.89	0.29	15.55	0.73
Serbia 96	1171	3	2.74	0.94	0.24	9.31	0.75
Spain 90	3394	2	2.26	0.9	0.08	14	0.54
Spain 96	858	2	2.35	0.88	0.09	14.14	0.61
Sweden 96	894	3	2.54	0.71	0.06	12.41	0.53
Switzerland 96	932	2	2.42	0.84	0.08	10.75	0.52
Taiwan 95	1270	3	2.84	0.65	0.12	13.02	0.67
Turkey 90	998	4	3.48	0.72	0.59	15.91	0.88
Turkey 96	1858	4	3.63	0.66	0.71	19.53	0.72
USA 90	1696	2	2.75	0.91	0.29	10.21	0.58
USA 95	1361	3	3.18	0.71	0.34	10.36	0.65
Venezuela 96	1142	3	2.79	1.01	0.3	13.36	0.69
W Germany 90	1931	2	2.29	0.81	0.06	10.71	0.43

Weighted data. The Confidence in the army variable takes values from 1 to 4.
Household income is annual in local currency (see data appendix).

Table 3 (continued): Summary Statistics, Individual Level Data

	Schooling		proportion	proportion	Age		Town size (1000s)	
	mean	sd	unemployed	male	mean	sd	mean	sd
Austria 90	7.04	5.51	0.016	0.392	46.73	17.06	.	.
Belarus 90	11.37	3.29	0.001	0.459	39.78	13.53	.	.
Belgium 90	10.25	3.29	0.065	0.513	44.68	16.79	203	321
Brazil 90	4.62	2.7	0.092	0.5	36.51	12.69	453	424
Britain 90	9.33	2.41	0.038	0.519	45.75	18.2	146	261
Bulgaria 98	10.56	4.09	0.131	0.489	47.97	17.74	213	349
Canada 90	11.24	2.85	0.063	0.499	42.32	16.78	461	466
Chile 90	10.22	3.48	0.044	0.48	38.62	15.79	582	397
Croatia 95	6.82	6.94	0.093	0.492	46.92	17.08	162	334
E Germany 90	9.42	2.56	0.016	0.459	44.68	16.74	180	321
Estonia 90	11.46	3.58	0.043	0.451	40.68	14.3	401	460
Estonia 96	12.82	3.89	0.071	0.439	43.62	15.3	.	.
Finland 90	11.17	4.22	0.016	0.517	41.21	13.95	.	.
Hungary 90	9.07	2.83	0.034	0.479	46.28	16.93	254	405
India 90	3.62	4.32	0.054	0.388	42.87	15.35	437	427
Italy 90	6.48	2.61	0.047	0.503	42.05	15.8	229	362
Japan 90	10.97	2.6	0.003	0.489	43.62	14.32	.	.
Japan 95	12.95	2.56	0.005	0.537	43.65	13.8	.	.
Latvia 90	12.12	3.18	0.039	0.398	39.12	13.88	381	448
Latvia 96	13.71	3.71	0.089	0.439	42.55	15.93	353	456
Lithuania 90	10.59	4.48	0.022	0.464	42.66	16.37	.	.
Macedonia 97	10.82	5.35	0.228	0.534	41.44	13.63	200	368
Mexico 90	7.03	5.1	0.035	0.553	34.3	13.15	621	425
Montenegro 96	11.71	4.78	0.144	0.495	42.28	14.23	46	81
Netherlands 90	11.12	2.8	0.023	0.28	40.68	15.03	184	296
Portugal 90	7.58	4.1	0.023	0.48	41.39	17.66	150	336
Russia 90	10.74	3.96	0.005	0.451	44.09	16.08	349	429
Russia 95	11.55	4.21	0.068	0.428	45.72	16.69	334	407
Serbia 96	11.17	5.13	0.078	0.491	44.68	16.13	195	348
Spain 90	7.64	4.18	0.057	0.479	44.89	18.18	276	369
Spain 96	7.83	5.62	0.136	0.494	45.64	18	279	376
Sweden 96	12.56	4.91	0.061	0.51	44.25	15.9	104	122
Switzerland 96	12.15	4.75	0.019	0.5	45.49	17.11	.	.
Taiwan 95	.	.	0.028	0.496	38.7	12.76	61	102
Turkey 90	.	.	0.089	0.499	36.45	14.13	.	.
Turkey 96	6.64	4.85	0.043	0.507	37.55	13.53	.	.
USA 90	10.56	4.21	0.056	0.505	44.35	18.04	240	361
USA 95	11.17	6.7	0.055	0.486	44.37	17.47	271	389
Venezuela 96	12.18	5.91	0.127	0.501	36.65	14.18	415	436
W Germany 90	9.32	2.57	0.032	0.471	46.04	18.02	216	341

Weighted data. Schooling is computed from age respondent left school.

Table 4: Association of Income with Confidence in the Army

	(1) Ordered Probit Confidence in Army (1-4)		(2) OLS Highest Level of Confidence	
Austria 90	-0.208***	(0.062)	-0.026**	(0.013)
Belarus 90	-0.078	(0.082)	-0.045	(0.032)
Belgium 90	-0.235***	(0.075)	-0.037***	(0.014)
Brazil 90	-0.153***	(0.028)	-0.079***	(0.011)
Britain 90	-0.034	(0.052)	-0.032	(0.022)
Bulgaria 98	-0.156***	(0.051)	-0.096***	(0.022)
Canada 90	-0.258***	(0.052)	-0.057***	(0.015)
Chile 90	-0.005	(0.038)	-0.022*	(0.013)
Croatia 95	-0.117*	(0.061)	-0.030	(0.027)
E Germany 90	0.082	(0.095)	-0.001	(0.009)
Estonia 90	-0.000	(0.077)	0.004	(0.016)
Estonia 96	-0.111	(0.079)	-0.017	(0.018)
Finland 90	0.011	(0.096)	-0.016	(0.030)
Hungary 90	-0.140**	(0.070)	-0.067***	(0.018)
India 90	0.126	(0.090)	0.027	(0.039)
Italy 90	-0.217***	(0.047)	-0.054***	(0.011)
Japan 90	0.056	(0.082)	-0.003	(0.013)
Japan 95	0.201**	(0.100)	0.031	(0.022)
Latvia 90	0.173**	(0.072)	0.013	(0.016)
Latvia 96	-0.066	(0.056)	-0.012	(0.009)
Lithuania 90	-0.160	(0.065)	-0.011	(0.010)
Macedonia 97	-0.143*	(0.056)	-0.060***	(0.016)
Mexico 90	0.004	(0.026)	0.009	(0.007)
Montenegro 96	-0.142	(0.113)	-0.077*	(0.044)
Netherlands 90	-0.049	(0.096)	-0.044***	(0.016)
Portugal 90	-0.280***	(0.064)	-0.070***	(0.015)
Russia 90	-0.242***	(0.063)	-0.130***	(0.027)
Russia 95	-0.190***	(0.036)	-0.079***	(0.014)
Serbia 96	-0.149***	(0.043)	-0.036**	(0.017)
Spain 90	-0.388***	(0.040)	-0.056***	(0.010)
Spain 96	-0.192***	(0.071)	0.026	(0.019)
Sweden 96	0.183**	(0.086)	0.004	(0.020)
Switzerland 96	0.050	(0.081)	-0.003	(0.020)
Taiwan 95	-0.215***	(0.049)	-0.029**	(0.014)
Turkey 90	-0.202***	(0.045)	-0.082***	(0.017)
Turkey 96	-0.242***	(0.050)	-0.095***	(0.018)
USA 90	-0.051	(0.050)	-0.048**	(0.020)
USA 95	-0.131**	(0.054)	-0.048**	(0.021)
Venezuela 96	-0.106**	(0.048)	-0.040**	(0.020)
W Germany 90	-0.024	(0.064)	-0.008	(0.013)

Note: the table presents the coefficients on log of household income, controlling for log of household size. Missing data on household size are dummied out. Each row represents a separate regression. Robust standard errors are in parentheses. The dependent variable in Column (1) is confidence in the armed forces, taking four values from 1 to 4. The dependent variable in Column (2) is a dummy variable for having the highest level ("a great deal") of confidence in the armed forces. Estimations correct for the individual level sampling weights provided by the WVS.
* significant at 10%; ** significant at 5%; *** significant at 1%

Table 5: Education, Militarism and Civil War Incidence

	Barro-Lee sample		WVS sample		
	(1)	(2)	(3)	(4)	(5)
log GDP per capita	-0.110***	-0.037	-0.283***	-0.180*	-0.129
	(0.031)	(0.042)	(0.088)	(0.097)	(0.118)
Average schooling		-0.036***			-0.024
		(0.013)			(0.036)
Confidence in Army				0.892**	0.882**
				(0.420)	(0.401)
log population	0.067***	0.076***	0.086	0.051	0.044
	(0.018)	(0.018)	(0.053)	(0.061)	(0.064)
log (% mountainous)	0.011	0.012	0.006	-0.005	-0.004
	(0.018)	(0.017)	(0.044)	(0.039)	(0.037)
Noncontiguous state	0.076	0.073	0.157	0.197	0.199
	(0.075)	(0.077)	(0.137)	(0.132)	(0.139)
Oil exporter	0.127**	0.076	0.300*	0.262	0.282
	(0.059)	(0.062)	(0.164)	(0.164)	(0.173)
Democracy (Polity IV)	0.008***	0.010***	0.000	-0.008	-0.009
	(0.003)	(0.003)	(0.024)	(0.026)	(0.028)
Democracy squared	-0.002**	-0.002**	0.002	0.002	0.002
	(0.001)	(0.001)	(0.002)	(0.002)	(0.003)
Ethnic fractionalization	0.112	0.094	0.149	0.187	0.181
	(0.105)	(0.102)	(0.209)	(0.225)	(0.225)
Religious fractionalization	-0.003	0.057	0.047	-0.108	-0.012
	(0.108)	(0.112)	(0.233)	(0.207)	(0.241)
Observations	805	805	60	60	60
R-squared	0.20	0.22	0.48	0.55	0.56

Notes: OLS estimates from a linear probability model, robust standard errors in parentheses. Regression disturbance terms are clustered at the country level. Dependent variable is 1 for country years in which a civil war is observed in the *subsequent* 5 years and zero otherwise. Columns 1-3 Estimated at five-year intervals. Average schooling is from Barro and Lee (2000).

* significant at 10%; ** significant at 5%; *** significant at 1%

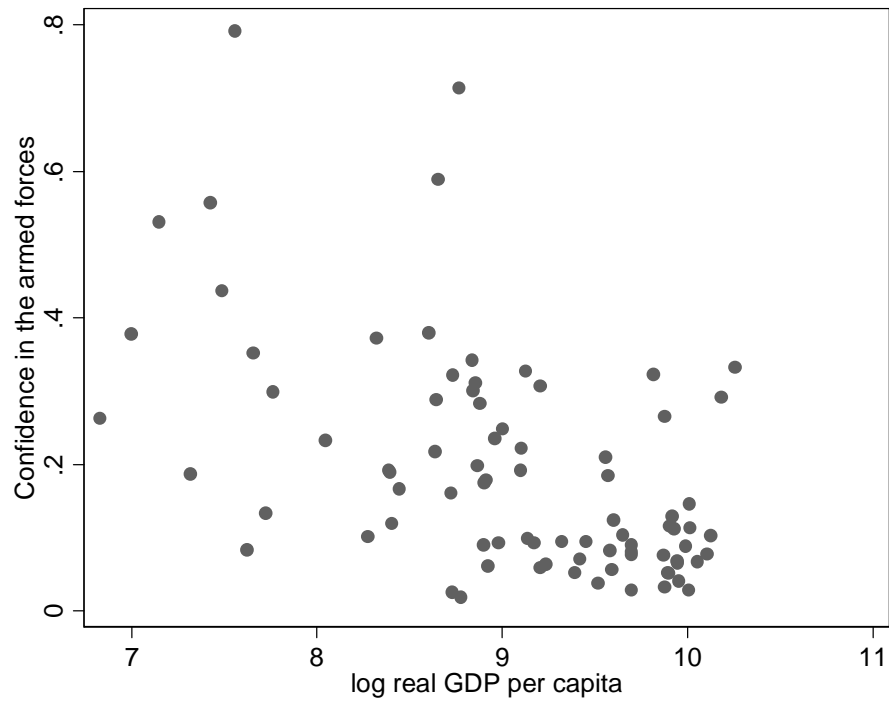**Figure 1. Three Sources of Conflict**
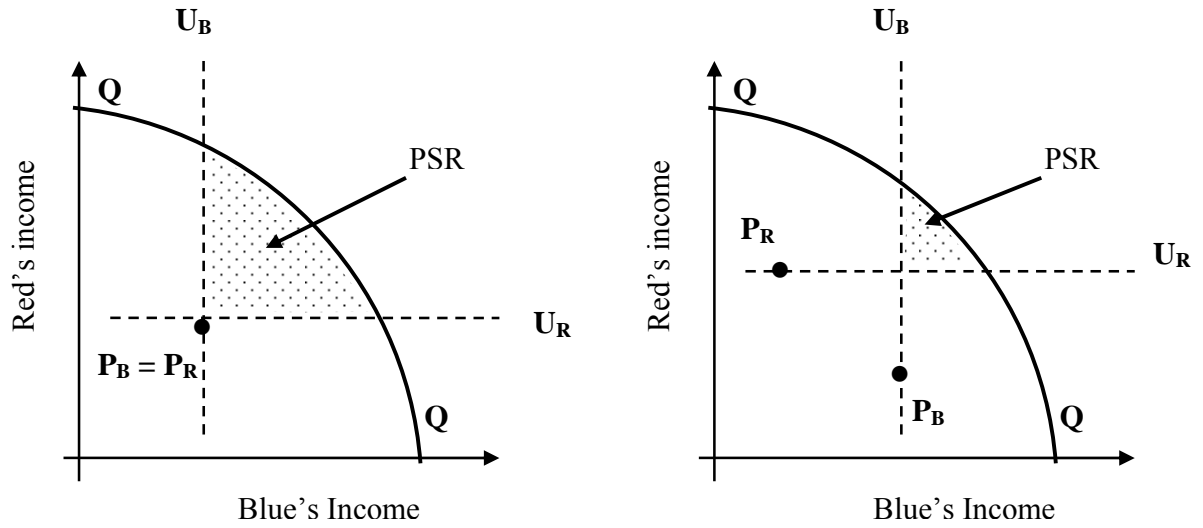
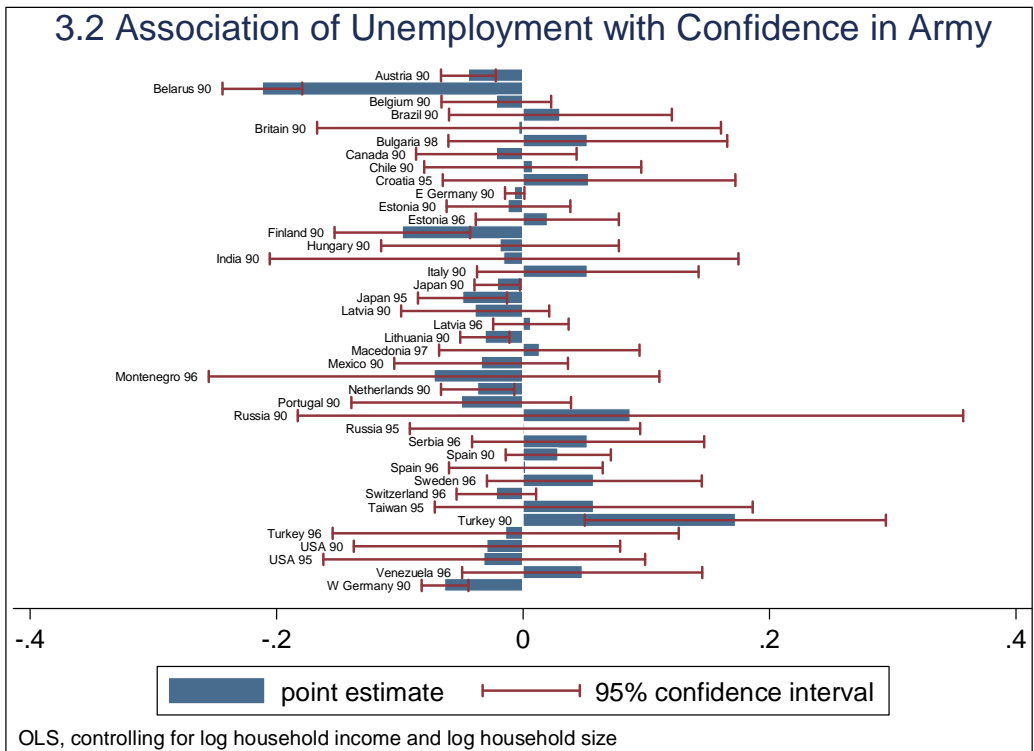1a. Large potential settlement region   1b. Small potential settlement region
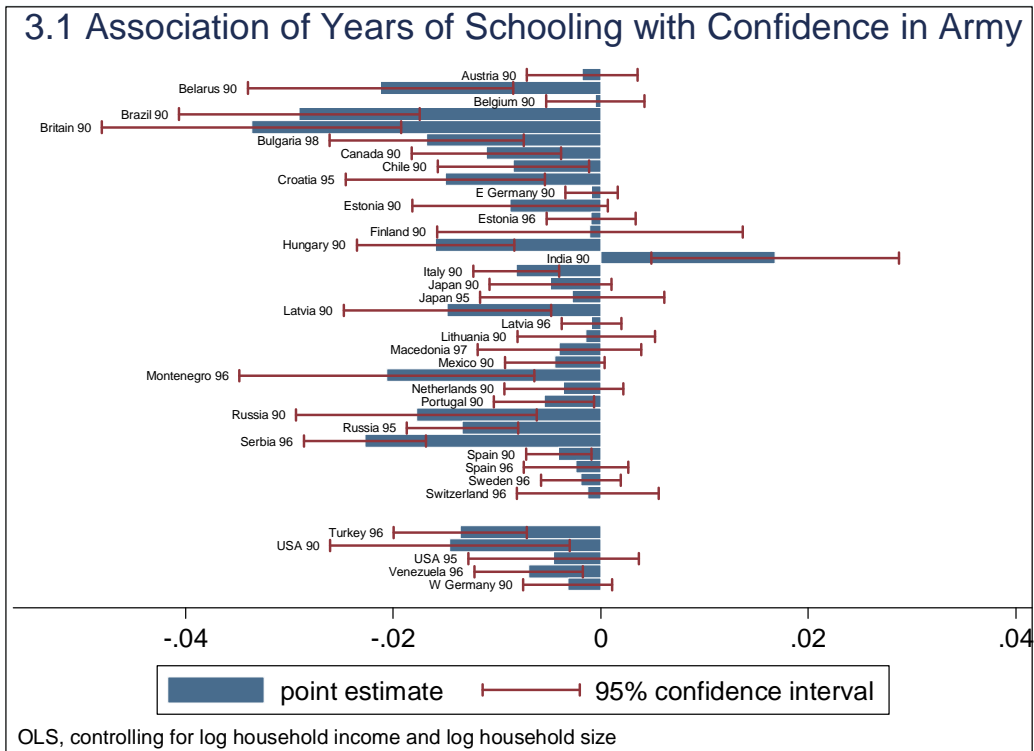
Adapted from Hirshleifer (1995).

Figure 2: Confidence in the Armed Forces and GDP per capita
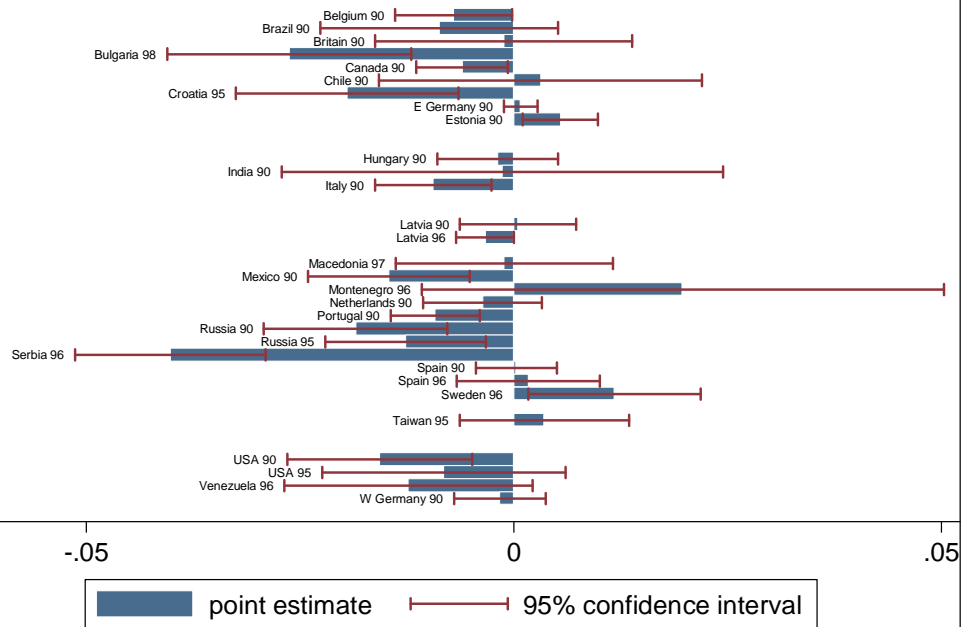

Note: Confidence in the armed forces is measured as the proportion of the population professing the highest level of confidence ("a great deal"). Real GDP per capita is from PWT 6.1.

Figure 3: Correlates of Confidence in the Army

3.1 Association of Years of Schooling with Confidence in Army

point estimate   95% confidence interval

OLS, controlling for log household income and log household size

3.2 Association of Unemployment with Confidence in Army

point estimate   95% confidence interval

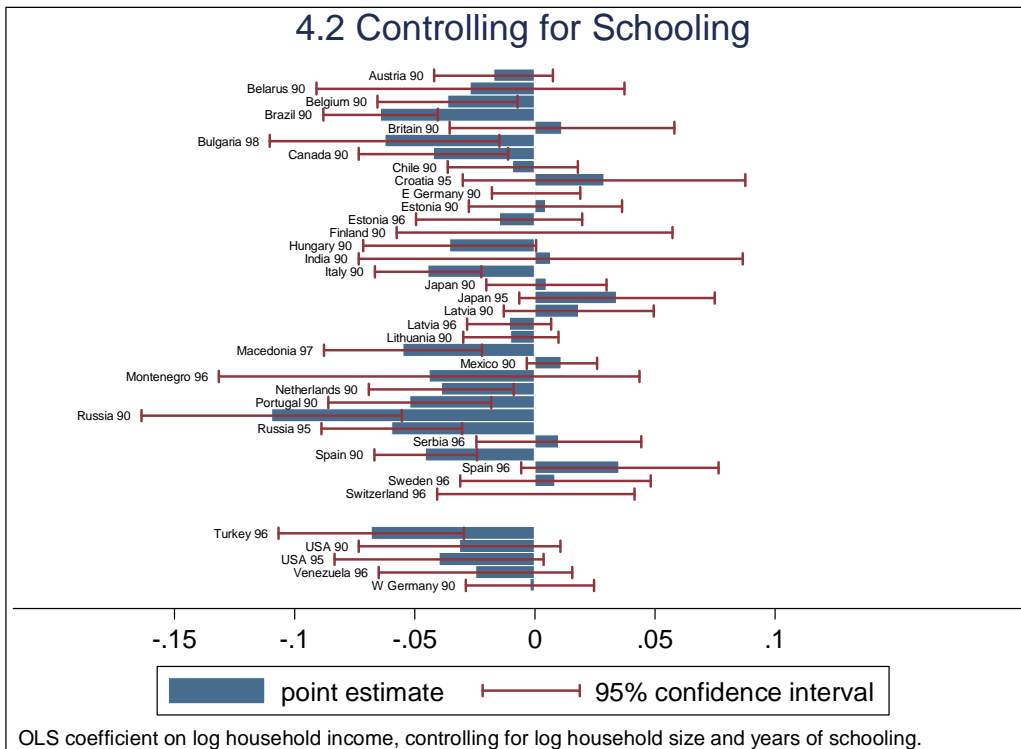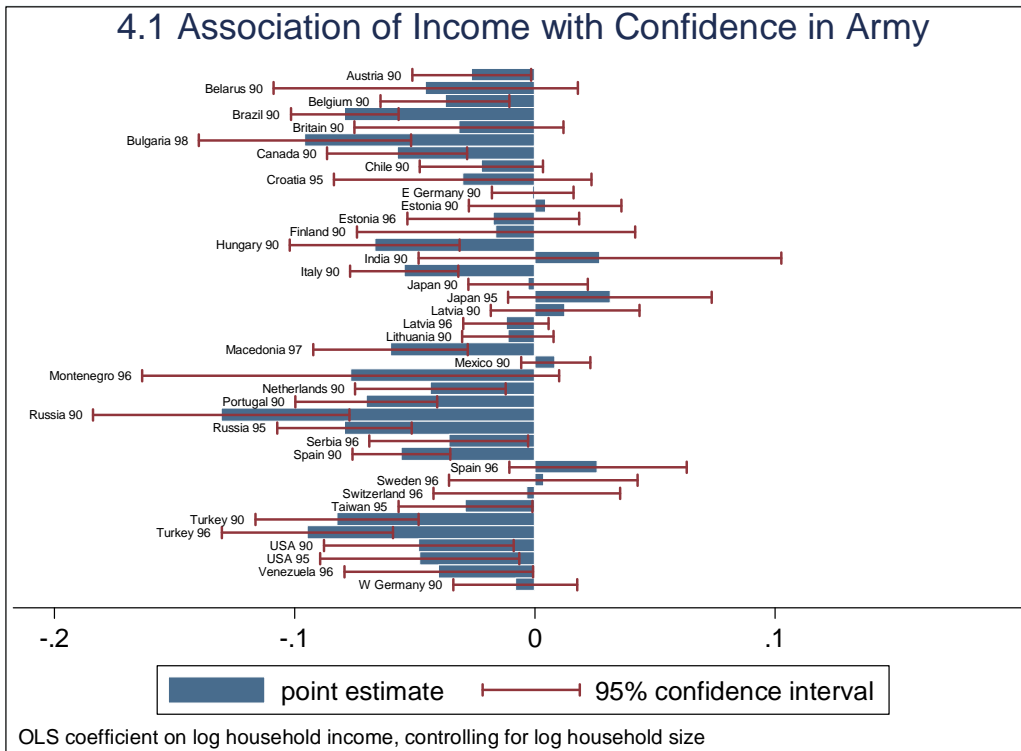OLS, controlling for log household income and log household size

3.3 Association of Size of Town with Confidence in Army

OLS, controlling for log household income and log household size

Figure 4: Income and Confidence in the Army

4.1 Association of Income with Confidence in Army

point estimate | 95% confidence interval

OLS coefficient on log household income, controlling for log household size

4.2 Controlling for Schooling

point estimate | 95% confidence interval

OLS coefficient on log household income, controlling for log household size and years of schooling.

4.3 Controlling for Schooling and Town Size

OLS coefficient on log household income, controlling for log household size, years of schooling and size of town.