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INEQUALITY AND GUARD LABOR, OR PROHIBITION AND GUARD LABOR?

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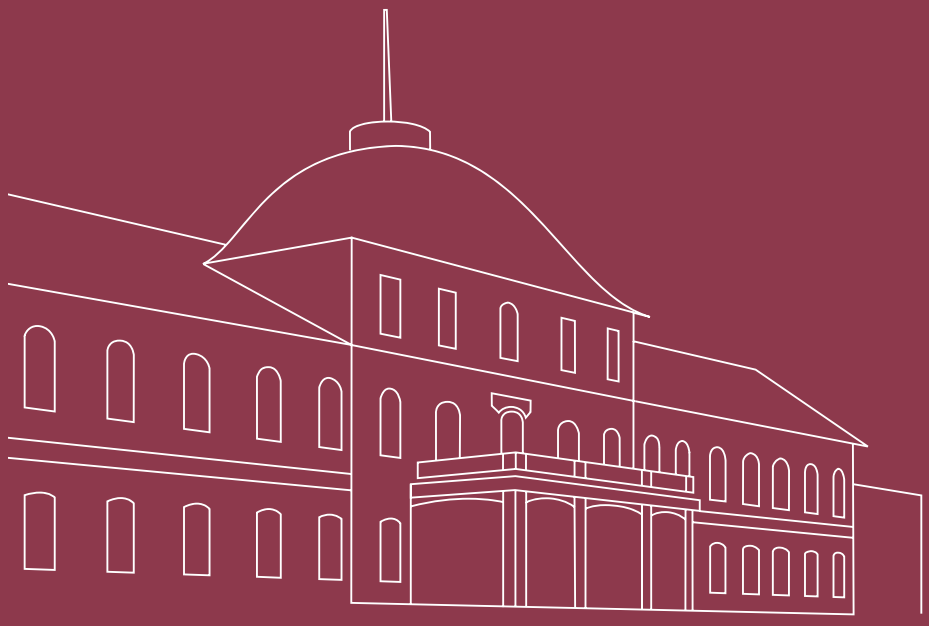

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Inequality and Guard Labor, or Prohibition and Guard Labor?

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Abstract

In this paper, we consider whether or not inequality forces society to expend more resources on supervision which imposes an extra cost to doing business. Some argue that since inequality deteriorates social capital, there is a greater need for supervisory labor which is a costly burden to bear. We propose an alternative (but not mutually exclusive) explanation. We argue that the war on drugs leads to institutional decay and lower levels of trust which, in turn, force private actors to deploy resources to supervise workers and protect themselves. Our explanation complements the argument regarding the link between inequality and guard labor.

Keywords: Economic Growth, Inequality, Drugs, Guard Labor

JEL codes: N11, N21, E31

1. Introduction

Does inequality reduce economic growth? This question has received significant attention from many scholars in recent times (Banerjee and Duflo 2003; Barro 2000; Persson and Tabellini 1994) and it implies that inequality somehow imposes a cost on future economic activity. Those who are convinced by the empirical evidence linking slowdowns in growth and increases in inequality have suggested channels to explain why there is such a relation. In this paper, we consider one of the channels for extra costs imposed by inequality.

The effect of income inequality on economic growth is complex. Barro (2000) notes a positive impact of inequality on growth through the savings channel, especially in the richer countries. Galor and Moav (2004) analyze different development regimes and accumulation of physical and human capital: in case if the returns to human capital are lower than the returns to physical capital, inequality may foster development; yet if the returns are equal, inequality may dampen growth. Bearing the latter statement in mind, most of the authors focus on the negative effects of inequality: Persson and Tabellini (1994) suggest the policy-related channel, through which inequality stimulates introduction and conduct of policies endangering property rights; Robert Fogel (2000) argued that inequality could reduce growth if the poor suffered from poor health that prevented investments in human capital; other authors (Voitchovsky 2009; Aghion, Caroli and García-Peñalosa 1999) focus on the political economy of inequality. The latter viewpoint suggests that inequality, if it is perceived as a sign of low social mobility, may undermine public support for pro-growth policies. This is a 'political economy' argument in the sense that it relates to the role of institutions. Samuel Bowles (2012) and Jayadev and Bowles (2006; 2014) fleshed out this position in their study of 'guard labor'. Their contention is that inequality reduces trust. In turn, this incites employers and firms to spend more resources on 'guard labor' which they define as anyone who is tasked with supervision of other individuals in or out of the workforce. The greater expenses incurred on guard labor represent high transaction costs. Bowles and Jayadev (2014) present their argument by showing that countries with greater levels of inequality are also countries where guard labor comprises a greater portion of the workforce.

In this article, we do not dispute that trust affects the need for guard labor which in turn may hinder economic activity. However, we argue that there is another channel by which

employment of guard labor can be explained. . This alternative is an institutional failure that is coincidental with inequality: government efforts at enforcing prohibitions against drugs, alcohol, tobacco and guns. Since increases in enforcement efforts of drug and alcohol prohibition tend to increase homicide rates (Miron 1999) by forcing criminals to resort to violence to adjudicate conflicts related to illicit activities, there are spillovers into the wider society that deteriorate trust. This, in turn, stimulates a greater demand for guard labor which is the cost of doing business.

In essence, we argue that violence results from a demand for dispute resolution which is driven by the level of prohibition enforcement efforts. This demand for dispute resolution then spills over into non-criminal spheres of society. Once this occurs, non-criminal firms are forced to expend more resources on security or supervision.

Our paper is divided as follows: in Section 2, we explain the theoretical and empirical underpinnings of how guard labor may impose costs on society and how inequality might induce a greater demand for guard labor (we call this channel the 'inequality channel'); in Section 3, we propose our argument that prohibition efforts determine the demand for guard labor (we call our channel the 'prohibition channel'); in Section 4, we present the empirical evidence that substantiates our claim regarding the 'prohibition channel'.

Our results suggest that the level of prohibition enforcement efforts, measured by different indicators, are stronger predictors of guard labor demand than inequality is. We also point out that the 'inequality channel' is not robust to the type of inequality measure used (before or after taxes) while the 'prohibition channel' is robust to changes in specifications.

2. Is inequality a market failure?

This is essentially the question that Samuel Bowles (Bowles and Gintis 2002; Bowles 2012) asks, albeit he prefers to use the term 'coordination failure' (2012: 4). For a market failure to occur, there must be an externality generated by inequality that prevents some of the gains from exchange from being realized. In Bowles's argument, income inequality generates a negative externality in the form of lower levels of trust. In turn, this amplifies any principal-agent problems. Employers feel that they cannot trust their workers as both groups are socially distant

(Maskin and Tirole 1990). This amplification of the principal-agent problem forces a greater amount of effort and resources to be expended on monitoring workers. Without 'costly monitoring', productivity will be adversely affected but 'monitoring uses up resources that could have otherwise been productively employed' (Bowles 2012: 6). Basically, Bowles (alongside Herbert Gintis (2002) and Arjun Jayadev (2006)) is arguing that inequality, two steps removed, increases transaction costs and reduces the size of the market. By degrading trust, inequality becomes an externality that leads to a 'market failure'. Citing John Stuart Mill, Bowles and Jayadev (2006: 344-45) summarize the point cogently: *it is lamentable to think how a great proportion of all efforts and talents (…) are employed in merely neutralizing one another.*

To make their claim, they use a measure of guard labor which they define broadly as anyone who is involved in supervising workers or controlling others: supervisory labor, private guards, police officers, correctional officers, judicial and penal employees, military personnel and department of defense employees. For some unspecified reason, they also add the number of prisoners and unemployed workers. Then, they look for correlates of guard labor – one of which is inequality. Elsewhere, they also present a variable titled 'protective services' (Bowles and Jayadev 2007; Bowles 2012) and point out the correlation between that variable and inequality as evidence for the axiomatic claims they advance.

There is merit to elements of this argument. Bowles and Jayadev (2006: 345) present the monitoring efforts to solve the principal-agent problem as 'the costly exercise of power by private economic actors'. This exercise of power, in their eyes, results from the perceived inequalities between principals and agents and that agents perceive as illegitimate.[1] The illegitimacy of the inequalities is the source of social distance. The exercise of power is not costless (Buchanan and Tullock 1962) and it is easy to see the need for trust to reduce transaction costs. As an informal institution, trust complements formal institutions like enforceable contracts (Hart 1995). It reduces the costs of transacting with other parties by reducing uncertainties through reputational mechanisms (Stringham 2015), or through widely shared social norms (Ostrom and Schwab 2012). Thus, reductions in trust can lead to the nefarious outcomes

[1] It is worth underlining that Welch (1999) made a similar argument arguing that certain forms of inequality were tolerable to the eyes of the public. Those inequalities, emerging from merit and voluntary exchange, or that emerge in the presence of the possibility of upward socioeconomic mobility, are not perceived as problematic. Although he does not explicitly make this point, Bowles's frequent references to 'illegitimate' inequalities suggest that he is aware of this point and that he implicitly makes the distinction.

bemoaned by Bowles and his acolytes. This empirical channel has been well documented elsewhere (Zak and Knack 2001). Consequently, this argument should not be disregarded since private security employees in the US outnumber sworn police officers by a ratio of three to one (Nalla and Crichlow 2014: 1) and more than one million Americans work in that industry. The size of the industry alone warrants consideration if there is an overprovision of security in the United States as a result of inequality.

However, if distrust is costly, it represents a transaction cost that entrepreneurs can reduce to their profit. Identifying this cost and dealing with it unleashes exchanges that can be profitable (Milgrom, North and Weingast 1990; Greif 1993; Ellickson 1994; Anderson and Hill 2004; Volckart 1999; Benson 1990 [2011]). It is a $100 bill on the sidewalk waiting to be picked up. Thus, there is an incentive to reduce transaction costs by creating mechanisms that reinforce trust. Even large and socially diverse populations are able to generate, in the presence of a favorable legal environment, governance structures that promote trust by reducing social distance (Leeson 2014; 15-31). By recognizing that markets are able to generate solutions to the issue of low levels of trust,[2] we can then ask what barriers are preventing the emergence of private solutions to the cost of distrust.

3. Guard labor as the outcome of 'government failure'

Can we consider that the non-optimal demand for guard labor might result from a political failure rather than a market failure? Might it be only coincidentally correlated with inequality? Basically, we explore the possibility that there is a government failure that co-exists with the inequality story advanced by Bowles.

For example, consider the role of public policing, in which there can be government failure. The quality of the public good of policing may decline as a result of the political processes that generate appointments in a police force. Moreover, special interest groups may influence the allocation of investigative and policing resources so as to reduce the quality of the

[2] We point to the work of Mathers and Williamson (2011) in support of this contention. They show that at low levels of economic freedom, cultural factors determining trust have a positive effect on growth. Thus, unfree economies with low levels of trust will experience less growth than unfree economies with high levels of trust. However, in freer countries, they found that both trust and economic freedom matter for growth suggesting that in free economies, the two are complements to one another (p.326).

good produced (Benson 1990 [2011]: 276-277). In such a situation, private actors, who still pay for a public police force through taxes, but who do not obtain the benefit of protection, may be forced to expend extra resources to protect themselves. Thus, the private response is an *efficient* response to the poor provision of public policing, even if it leads to an over-optimal provision of policing.[3]

An analogous argument was discussed implicitly by Djankov, Glaeser, La Porta, Lopez-de-Silanes and Shleifer (2003). They presented an interpretation of institutions using an institutional possibilities frontier representing the various combinations of private and public institutions available to a society. The argument is that there are social losses linked to private disorder which have to be traded off against social losses from greater state control, basically a trade-off between private order and public order. As a result, the frontier resembled a production function isoquant, or indifference curve in utility analysis, with trade-offs between the different forms of losses. By definition, they assumed that there was convexity. Nonetheless, they briefly mention what would happen in the absence of convexity. Greater state control, as, for example, in the case of price controls, could increase bribery and corruption to evade this control. Trust in public institutions is weakened when there are more forms of private ordering such as shadow markets. As a result, some attempts at providing public order force the use of different forms of private ordering that may be costlier than the alternative, but still preferable to accepting the public ordering.[4] In such cases, there is government failure that imposes significant costs on society.

The complementary argument we propose is based largely on this idea of government failure as a result of efforts to prohibit drugs. Efforts at prohibiting illicit substances require that limited policing resources be spread more thinly which may force private actors to expend more

[3] There is another argument that could be raised but that would require a separate paper: inequality itself can be a government failure resulting from rent-seeking (Tullock 1967; Krueger 1974). There are numerous policies that act to lower the left tail of the income distribution to the benefit of the right tail (bailouts, corporate subsidies, special tax treatments, regulatory barriers protecting incumbent firms, regressive tax burdens like trade tariffs). These inequalities can be deemed 'illegitimate' (Welch 1999) in the sense that the general population views them as unfair. This increases social distance and forces principals to exert more supervision over their agents. As a result, the principal-agent problem may be magnified because of a government failure.

[4] In their paper, Djankov et al. (2003) avoid going into too much detail about the absence of convexity. However, Rosser and Rosser (2008) pushed their line of reasoning in order to include the possibility of multiple equilibria. Their argument is that the benefits from a certain form of public ordering may be heavily distributed in favor of one group even if, in aggregate, this ordering leads to a net welfare loss.

resources on security for themselves (thus creating an overprovision of security). This represents a form of state failure, especially if the attempts at policing these illicit substances increase the level of crime to which populations are vulnerable. Government efforts at prohibition of certain substances have spillover effects that deteriorate social capital. We summarize this through three channels that we call: a) the Miron effect; b) the community deterioration effect and; c) the bias-reinforcing effect. All three channels, explained below, co-exist and lead to a non-optimal quantity of guard labor.

In the United States,[5] governments have long expended efforts at prohibiting the consumption of certain goods: drugs, alcohol, tobacco and firearms. While prohibitions can reduce some forms of violence, they can also incite the emergence of black markets in which legal recourse for adjudicating conflicts is impossible. Faced with this difficulty, extralegal adjudication mechanisms may be sought: gang wars, murders, intimidation, extortion, bribery, etc. This is the Miron effect named after Jeffrey Miron (1999) who proposed that prohibition efforts against alcohol and drugs in the United States increased the homicide rate by 25%-75% of its observed level. Miron (1999: 80) summarized his argument as such: '*...violence results from a demand for dispute resolution* (…) *the degree to which a prohibition is enforced determines the impact of that prohibition on violence*'. By rendering certain goods illegal, prohibition increases the likelihood of violence.[6] In a later paper (2001: 617), Miron proposed that the level of enforcement efforts forces the substitution of reputational capital (a form of social capital) by violence as a contractual enforcement mechanism. Although Miron did not expand on this, cycles of violence perpetrated in marginalized communities can generate a vicious circle of deteriorating social capital. A strong parallel in that regard can be gleaned by looking at how violent conflicts in countries like Cambodia, Rwanda, Guatemala and Somalia have transformed social capital (Colletta and Cullen 2000) by reducing communal trust, destroying norms and values and killing many of the transmitters of such informal institutions.

The second effect is similar to the Miron effect, but it amplifies it. Individuals affected by prohibition efforts change their behavior in a manner that produces a new, and negative form, of

[5] For the sake of simplicity in the presentation of our counter-argument, we will concentrate on the US. However, the argument can be easily transplanted to other countries.

[6] It may also incite *more* attempts at market entry. Although supply is lower due to enforcement, prices are higher, which may incite attempts at entry by violent potential suppliers.

social capital. Key to this argument is that not all social capital is positive. For example, Satyanath, Voigtlaender and Voth (2013) pointed out that social capital in interwar Germany served the formation of veterans associations which, in turn, supported the rise of the Nazis. In a less tragic form, Ogilvie (2010) documented how medieval guilds used social capital to create powerful rent-seeking organizations which limited market entry into their trade. These forms of social capital were geared toward outcomes that benefited members, but at a cost for non-members which meant an aggregate loss for society.

While imprisoned as a result of prohibition enforcement, some individuals participate in, get involved in, or create criminal networks that persist after release. Gangs that emerge behind bars can exert influence on the outside community (Skarbek 2011; Bayer et al. 2009). These organizations produce social capital the ends of which are socially destructive. In fact, they reinforce the mechanism produced by the Miron effect. Simultaneously, they crowd-out other forms of social capital. A form of this argument is advanced by Bowles and Gintis (2002: F428) who point out the 'culture of honor' that can turn 'public insults and arguments into deadly confrontations' which represent significant costs to the communities in which they happen. While the enforcement of a social norm is a form of social capital, its value depends on the outcome it generates, in this case, a community deterioration.

The third effect relates to the reinforcement of certain biases held by actors involved on both sides of enforcement efforts. It is a form of governmental failure in policing. The individuals involved in crime are not a proportional representation of the overall population – those who violate prohibition statutes disproportionately emanate from certain population segments. If certain stereotypes exist at the time of enforcement, they are reinforced by the enforcement efforts. Enforcers come to believe that the stereotypes are true and they act on these conceptions. Simultaneously, the communities that are disproportionately affected by the prohibition enforcement efforts consider enforcement efforts to be targeted against them (Khenti 2014). In turn, this reduces their trust in the institutions that enforce prohibition. This perceived institutional failure leads these communities to turn to extralegal sources of conflict adjudication which further increase violence.

Taken together, these three effects induce the need for greater expenses on security. Firms in crime-prone areas have to expend resources on surveillance materials or security

personnel. Firm-owners might feel less trusting towards employees from backgrounds more affected by prohibition enforcements and thus expend more resources on monitoring them or doing background checks on them. Criminal activities require money laundering which may incite some firms to act as fronts for such enterprises and, in turn, this forces more resources to be expended on financial compliance, auditing and the policing of white-collar crimes.

All these channels would yield the effects described by Bowles (2012), and Bowles and Jayadev (2006, 2007) but they would not result from inequality. Rather than being attributable to the externality of inequality, these effects are the outcome of government failure in the decision to enforce prohibition.

4. Prohibition Efforts and the Demand for Guard Labor

In order to address the research question, we formulate an intuitive empirical model to explain guard (or supervisory) labor with two variables of interest: inequality and prohibition.

$$y_i = \beta_0 + \beta_1 inequality_i + \beta_2 prohibition_i + \beta_x X_i + u_i$$

where y_i is a proxy for guard (or supervisory) labor; $inequality_i$ is a proxy for income inequality; $prohibition_i$ is a proxy for prohibition measures; X_i is a vector of further controls; βs are the coefficeints and u_i is an error term. The equation is estimated with OLS with bootstrapped errors. Our empirical strategy is intuitive: we test whether β_1 and β_2 are significantly different from zero. In the inequality coefficient is significant, then the income distribution channel is a significant determinant of guard labor; however, if the coefficient on prohibition is significant, this suggests that the alternative channel, described in our paper, holds as well. We elaborate on the proxies (see Table 1) used for these variables in the description below.

Data were aggregated from multiple sources. The first step was to build the measure of guard labor and supervisory labor (see Table 1, a-d). For this, we relied on the Bureau of Labor Statistics (BLS) which provides a breakdown of the labor force by state. We used the year 2013. We also had to make some modifications to their measures in order to avoid endogeneity bias. The supervisory labor force created by Bowles and Jayadev (2006, 2007) includes police

officers, judges and other officers of the state that are part of the prohibition enforcement efforts. Since our variable for prohibition enforcement is based on state and local expenditures for drug prohibition enforcement (Miron and Wadlock 2010), our dependent variable would follow a similar construction to our main independent variable of interest. With this in mind, we removed the components of the supervisory labor force that were related to law enforcement in order to create a variable named supervisory labor without law enforcement. We also focused on guard labor alone which is a large segment of the American labor force – slightly above 1 million workers and, therefore, worthy of attention.

As proxies for inequality we use a very broad range of indicators: the Gini coefficients for total, market and disposable income calculated using the census data and according to the census definitions; top 5 and 1% shares of income and the Gini coefficient from Frank (2014). We include the proxies (see Table 1, e-k) separately in the estimation equation to avoid collinearity.

Ideally, a measure of prohibition would capture the depth and intensity of government efforts to enforce it. Such measures are in scarce supply because they would need to encompass efforts at different levels of government. However, Miron and Wadlock (2010) provided a rich cross-sectional measure of the levels of state and local spending on drug prohibition. In their work, they collected data regarding the level of police and judicial resources allocated to drug arrests in order to estimate the budgetary savings of ending drug prohibition. They estimated the percentage of state and local arrests for drug violations and multiplied this proportion by the state and local budget for police to obtain the policing costs. Then they applied the same logic for convictions and incarcerations to estimate the costs within the judicial and correctional systems. Their numbers applied to 2008. We rely on their dataset and use it for our estimations (see Table 1, o).

To this, we added a vector of control variables: income, poverty rates, urban density, poisoning by drug overdoses (a proxy for demand of drugs) and different measures of inequality. We used different measures of inequality (all pre-tax and pre-transfers) in order to see how robust the designs were to changes in variable specification (see Table 1, l-n, p and g).[7] We also compared the guard labor force to the population and the workforce. While Bowles and Jayadev

[7] The sources for our variables are detailed in the bibliography

(2006, 2007) concentrated on the relation to the overall workforce, we believe that the focus should be on the size of the guard labor force relative to the population. The level of security that firms and individuals seek to procure is largely dependent on the population to be policed. While we present both variables, we think that the conceptually superior dependent variable is guards to population. All our variables apply to 2013, except the Miron and Wadlock (2010) prohibition efforts measure which applies to 2008.

Table 1: Description of variables

		Mean	SD
a)	ln guards/population (G/P)	0.462	0.199
b)	ln supervisory without enforcement/population (S/P)	1.657	0.11
c)	ln guards/workforce (G/W)	0.793	0.187
d)	ln supervisory without enforcement/workforce (S/W)	0.503	0.058
e)	ln Gini coefficient, Frank (2014)	1.790	0.026
f)	ln top 5% income, Frank (2014)	1.539	0.065
g)	ln top 1% income, Frank (2014)	1.281	0.103
h)	ln total income Gini, census	1.666	0.02
i)	ln market income Gini, census	4.003	0.044
k)	ln disposable income Gini, census	3.876	0.045
l)	ln income per capita	4.619	0.052
m)	ln urban density	1.860	0.095
n)	ln drugs poisoning rate	1.145	0.168
o)	ln drugs prohibition spending	1.844	0.123
p)	ln households with guns	1.471	0.228
q)	ln poverty rate	1.170	0.099
	Observations	51	

We present our results in Tables 2-5 below. Whereas in the given tables we use just one control (population density), in the appendix we apply the additional controls: most of the results in Tables A1-A4 hold as well as the significance levels. In order to check for collinearity between the variables in Tables A1-A4 we calculate the variance inflation factor (VIF): none of the specifications reaches the value of four, a rule of thumb benchmark, which points out that the collinearity issue, if present, should not be severe. Table 2 illustrates the results where guards per 1,000 inhabitants is the dependent variable. Table 3 illustrates the results where guards per 1,000 workers is the dependent variable. Other tables use the ratio to workforce, rather than population. Since we were using a relatively small cross-section sample of the 50 American states and the

District of Columbia, we applied bootstrapping to obtain the errors. In most regressions, prohibition spending per capita is statistically significant and increases the demand for guard labor. Increases of 1% in drug prohibition spending per capita yield increases in the guards to population ratio by between 0.42% and 0.49%. Relative to the workforce (see Table 4), the range is between 0.385% and 0.404%. Relative to the ratio of the supervisory labor category without law enforcement to the total workforce, the range of the significant coefficients is between 0.072% and 0.082% (see Table 5). However, the effects of prohibition enforcement spending on supervisory labor without law enforcement to total population are not significant. This was not unexpected. While security guards will protect property from individuals both in and out of the workforce, supervisory workers tend to supervise other workers and not individuals outside the workforce.

Of greater importance in our results, inequality is only significant when we use the Gini coefficients generated by the Census Bureau (columns 1, 7, 13 and 19) which were derived from the less comprehensive American Community Survey. They use a per household measure of inequality. When one shifts to the Gini coefficients measured by Frank (2014) (columns 4, 5, 6, 10, 11, 12, 16, 17, 18, 22, 23, 24), the effects disappear. Frank uses per tax unit measures of inequality. We also used the Current Population Survey (which is more detailed than the American Community Survey) in order to arrive at different measures of incomes, including market and disposable incomes. One has to note that these were calculated using personal income data, rather than household. Akin to measures offered by Frank (2014), these measures failed to have statistically significant effects on the demand for guard or supervisory labor (relative to either the population or the workforce).

Table 2: Inequality vs. prohibition channels, with guards per 1000 population

Variables	(1) G/P	(2) G/P	(3) G/P	(4) G/P	(5) G/P	(6) G/P
ln total income Gini	4.344***					
	(1.284)					
ln disposable income Gini		-0.142				
		(0.504)				
ln market income Gini			-0.708			
			(0.598)			
ln Gini coefficient, Frank (2014)				0.370		
				(1.213)		
ln top 5%, Frank (2014)					0.169	
					(0.453)	
ln top 1%, Frank (2014)						0.0211
						(0.301)
ln prohibition spending	0.424**	0.447*	0.490*	0.426*	0.433*	0.439*
	(0.197)	(0.256)	(0.280)	(0.240)	(0.243)	(0.243)
ln urban density	0.548**	0.843**	0.884**	0.771**	0.762**	0.804**
	(0.248)	(0.369)	(0.356)	(0.362)	(0.376)	(0.375)
Constant	-8.577***	-1.380	0.751	-2.419	-2.014***	-1.870***
	(2.134)	(1.510)	(1.902)	(2.013)	(0.778)	(0.660)
Observations	51	51	51	51	51	51
R-squared	0.525	0.344	0.364	0.345	0.346	0.344
R-squared Adj	0.495	0.302	0.324	0.303	0.304	0.302

Bootstrapped errors (100 rounds) in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 3: Inequality vs. prohibition channels, with supervisory labor (enforcement excluded) per 1000 population

Variables	(7) S/P	(8) S/P	(9) S/P	(10) S/P	(11) S/P	(12) S/P
ln total income Gini	1.008					
	(0.721)					
ln disposable income Gini		-0.0391				
		(0.103)				
ln market income Gini			-0.187			
			(0.167)			
ln Gini coefficient, Frank (2014)				0.333		
				(0.225)		
ln top 5%, Frank (2014)					0.0993	
					(0.0838)	
ln top 1%, Frank (2014)						0.0820
						(0.0607)
ln prohibition spending	0.106	0.111	0.122	0.0973	0.105	0.105
	(0.0893)	(0.0822)	(0.0893)	(0.0817)	(0.0825)	(0.0831)
ln urban density	0.0743	0.144	0.155	0.0966	0.105	0.0967
	(0.0625)	(0.103)	(0.105)	(0.0923)	(0.0930)	(0.0938)
Constant	-1.509	0.182	0.741	-0.451	-0.0399	0.0254
	(1.284)	(0.386)	(0.479)	(0.435)	(0.263)	(0.251)
Observations	51	51	51	51	51	51
R-squared	0.278	0.163	0.179	0.177	0.172	0.178
R-squared Adj	0.232	0.109	0.127	0.125	0.119	0.126

Bootstrapped errors (100 rounds) in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 4: Inequality vs. prohibition channels, with guards per 1000 workforce

Variables	(13) G/W	(14) G/W	(15) G/W	(16) G/W	(17) G/W	(18) G/W
ln total income Gini	4.003***					
	(0.963)					
ln disposable income Gini		-0.0192				
		(0.580)				
ln market income Gini			-0.474			
			(0.579)			
ln Gini coefficient, Frank (2014)				0.109		
				(1.294)		
ln top 5%, Frank (2014)					0.0922	
					(0.479)	
ln top 1%, Frank (2014)						-0.0778
						(0.311)
ln prohibition spending	0.385**	0.400*	0.433*	0.396*	0.396*	0.404*
	(0.156)	(0.227)	(0.244)	(0.211)	(0.215)	(0.212)
ln urban density	0.530**	0.780**	0.822**	0.763**	0.747**	0.813**
	(0.270)	(0.352)	(0.325)	(0.356)	(0.372)	(0.362)
Constant	-7.574***	-1.322	0.362	-1.550	-1.469**	-1.365**
	(1.385)	(1.790)	(1.990)	(2.086)	(0.693)	(0.540)
Observations	51	51	51	51	51	51
R-squared	0.514	0.339	0.350	0.339	0.340	0.341
R-squared Adj	0.483	0.297	0.308	0.297	0.298	0.298

Bootstrapped errors (100 rounds) in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 5: Inequality vs. prohibition channels, with supervisory labor (enforcement excluded) per 1000 workforce

Variables	(19) S/W	(20) S/W	(21) S/W	(22) S/W	(23) S/W	(24) S/W
ln total income Gini	0.791***					
	(0.272)					
ln disposable income Gini		0.0282				
		(0.0771)				
ln market income Gini			-0.0550			
			(0.111)			
ln Gini coefficient, Frank (2014)				0.164		
				(0.176)		
ln top 5%, Frank (2014)					0.0506	
					(0.0732)	
ln top 1%, Frank (2014)						0.0233
						(0.0480)
ln prohibition spending	0.0754	0.0768*	0.0821*	0.0724*	0.0762*	0.0770*
	(0.0462)	(0.0431)	(0.0469)	(0.0418)	(0.0430)	(0.0432)
ln urban density	0.0537	0.0966*	0.108**	0.0827	0.0866	0.0910
	(0.0358)	(0.0551)	(0.0538)	(0.0569)	(0.0585)	(0.0586)
Constant	-0.871*	0.256	0.555	0.106	0.307**	0.345***
	(0.466)	(0.249)	(0.363)	(0.297)	(0.134)	(0.118)
Observations	51	51	51	51	51	51
R-squared	0.464	0.256	0.259	0.266	0.262	0.259
R-squared Adj	0.430	0.209	0.212	0.219	0.215	0.211

Bootstrapped errors (100 rounds) in parentheses

*** p<0.01, ** p<0.05, * p<0.1

The economic significance of these results should not be understated. An increase in prohibition spending of one standard deviation from the mean would represent an increase of 12.79% to 14.78% in the guard to population ratio (based on results in Table 2, columns 1-4) or from 12.92% to 13.91% using a broad range of controls (see Table A1). One standard deviation increase in inequality as defined by the Census Bureau would increase the guard labor to population ratio by roughly 20.5% (based on the results in Table 2, column 1) or by 31.85% controlled for additional effects (see Table, column A1). The relative strength of our prohibition measure is not negligible in this case. Moreover, our case is conservative since our measure only captured drugs prohibition. It does not include efforts to combat illegal tobacco, alcohol and firearms. A wider measure would capture more of the spillovers from illegal markets.

5. Conclusion

In this paper, we propose an additional (and complementary) explanation to the overprovision of guard labor might have. Elsewhere, Bowles and Jayadev have proposed that inequality creates social distance that erodes trust which in turn amplifies agency problems that must be addressed through greater expenses on supervision. Through the overprovision of supervision, a significant cost is imposed on society. We agree that there can be an overprovision of security and supervision that may impose a cost of doing business, however, we argue that the overprovision of supervision results from government failure. More precisely, that it is a spillover from government prohibition efforts against certain substances. When governments push for enforcement efforts against certain substances, illicit markets emerge. In these markets, conflict resolution between criminals requires the use of alternative modes of adjudication. This violence spills over into formal markets which forces individuals and firms to spend more resources on ensuring security. We also argue that the criminal associations formed produce a detrimental form of social capital while it simultaneously crowds out other forms of social capital. The higher level of distrust requires more policing and supervision efforts. Finally, if certain stereotypes regarding criminals exist at the beginning of prohibition, they are reinforced by the enforcement efforts. Enforcement officers target certain groups which in turn leads these groups to be less trusting of official institutions thereby creating the impression of government failure in policing. The distrust creates an environment in which third parties feel the need to spend more resources on private security.

Using one of few suitable existing measures of the severity of prohibition enforcement with regard to drugs at the state-level, we find that the channels we lay out are strong competitors to the channel of inequality proposed by Bowles and Jayadev. A change of one standard deviation in the level of drug enforcement increases the ratio of guards employed relative to population by somewhere between 12.79% to 14.78%. Thus, the intensity of prohibition efforts creates illegal markets whose transactions have externalities that require other firms to hire more guards to protect themselves. In fact, this variable (which is far from comprehensive since it concentrates only on drugs and there are no measures for enforcement against illegal firearms, tobacco, alcohol and prostitution) is always significant while the significance of inequality is highly sensitive to the measure chosen.

Future research should concentrate on trying to create more time-series of the efforts of state and local governments to enforce prohibition. This would permit the use of more robust methods like difference-in-difference or synthetic controls with the use of the guard labor data from the Bureau of Labor Statistics. Nonetheless, and at the very least, we have made the case that the inequality to guard labor link should be treated with more skepticism.

REFERENCES

Aghion, Philippe, Eve Caroli, and Cecilia Garcia-Penalosa. 1999. "Inequality and economic growth: the perspective of the new growth theories." *Journal of Economic Literature*, Vol.37, no.4, pp.1615-1660.

Anderson, Terry and Peter Hill. 2004. *The Not So Wild, Wild West: Property Rights on the Frontier.* Palo Alto, CA: Stanford University Press.

Banerjee, Abhijit V., and Esther Duflo. 2003. "Inequality and growth: What can the data say?" *Journal of Economic Growth*, Vol. 8, no. 3, pp.267-299.

Barro, Robert. 2000. "Inequality and Growth in a Panel of Countries." *Journal of Economic Growth*, Vol. 5, no.1, pp. 5-32.

Bayer, Patrick, Randi Hjalmarsson, and David Pozen. 2009. "Building Criminal Capital behind Bars: Peer Effects in Juvenile Corrections." *Quarterly Journal of Economics,* Vol. 124, no. 1, pp. 105-147.

Benson, Bruce. 2011 [1990]. *The Enterprise of Law: Justice without the State.* Oakland, CA: Independent Institute.

Berggren, Niclas, and Henrik Jordahl. 2006. "Free to trust: Economic freedom and social capital." *Kyklos*, Vol. 59, no. 2, pp. 141-169.

Bowles, Samuel and Herbert Gintis. 2002. "Social capital and community governance." *Economic Journal,* Vol.112, no. 483, pp. F419-F436.

Bowles, Samuel and Arjun Jayadev. 2007. "Garrison America." *The Economists' Voice,* Vol.4, no. 2, pp. 1-7.

Bowles, Samuel. 2012. *The New Economics of Inequality and Redistribution.* Cambridge: Cambridge University Press.

Buchanan, James and Gordon Tullock. 1962 [1990]. *The Calculus of Consent: Logical Foundations of Constitutional Democracy.* Indianapolis, IN: Liberty Fund.

Coletta and Nat and Michelle Cullen. 2000. *Violent Conflict and the Transformation of Social Capital.* Washington D.C.: World Bank.

Djankov, Simeon, Edward Glaeser, Rafael La Porta, Florencio Lopez-de-Silanes, and Andrei Shleifer. 2003. "The new comparative economics." *Journal of Comparative Economics*, Vol. 31, no. 4, pp. 595-619.

Ellickson, Robert. 1994. *Order without Law: How Neighbors Settle Disputes.* Cambridge, MA: Harvard University Press.

Frank, Mark. 2014. "A new state-level panel of annual inequality measures over the period 1916-2005." *Journal of Business Strategies,* Vol. 31, no. 1, pp. 241-263.

Galor, Oded and Moav, Omer. 2004. "From Physical to Human Capital Accumulation: Inequality and the Process of Development," *Review of Economic Studies*, Oxford University Press, vol. 71(4), pp. 1001-1026.

Greif, Avner. 1993. "Contract Enforceability and Economic Institutions in Early Trade: The Maghribi Traders' Coalition." *American Economic Review*, Vol. 83, no. 3, pp. 525-548.

Hart, Oliver. 1995. "Corporate governance: some theory and implications." *Economic Journal,* Vol.105, no. 430, pp.678-689.

Ikeda, Sanford. 2002. *Dynamics of the mixed economy: Toward a theory of interventionism.* London: Routledge.

Jayadev, Arjun, and Samuel Bowles. 2006. "Guard Labor." *Journal of Development Economics*, Vol. 79, no. 2, pp. 328-348.

Jaydev, Arjun and Samuel Bowles. 2014. "One Nation under Guard." *New York Times*, Februrary 15th 2014.

Khenti, Akwatu. 2014. "The Canadian war on drugs: Structural violence and unequal treatment of Black Canadians." *International Journal of Drug Policy,* Vol. 25, no. 2, pp. 190-195.

Kreuger, Anne. 1974. "The political economy of the rent-seeking society." *American Economic Review*, Vol. 64, no. 3, pp. 291-303.

Leeson, Peter T. 2014. *Anarchy unbound: Why self-governance works better than you think*. Cambridge: Cambridge University Press.

Maskin, Eric, and Jean Tirole. "The principal-agent relationship with an informed principal: The case of private values." *Econometrica,* Vol. 58, no.2, pp.379-409.

Milgrom, Paul, Douglass C. North and Barry Weingast. 1990. "The role of institutions in the revival of trade: The law merchant, private judges, and the champagne fairs." *Economics & Politics*, Vol. 2, no. 1, pp. 1-23.

Miron, Jeffrey. 1999. "Violence and the US Prohibitions of Drugs and Alcohol." *American Law and Economics Review*, Vol. 1, no. 1, pp. 78-114.

Miron, Jeffrey. 2001. "Violence, guns, and drugs: A cross-country analysis." *Journal of Law and Economics*, Vol. 44, no. S2, pp. 615-633.

Miron, Jeffrey and Katherine Waldock. 2010. *The Budgetary Impact of Ending Drug Prohibition.* Washington D.C.: Cato Institute.

Nalla, Mahesh and Vaughn Crichlow. 2014. "Have the standards for private security guards become more stringent in the post 9/11 era? An Assessment of security guard regulations in the US from 1982 to 2010." *Security Journal.*

Ogilvie, Sheilagh. 2011. *Institutions and European trade: Merchant guilds, 1000–1800*.

Cambridge: Cambridge University Press.

Ostrom, Elinor and David Schwab. 2008. "The Vital Role of Norms and Rules in Maintaining Open Public and Private Economies" in *Moral Markets: The Critical Role of Values in the Economy* ed. Paul Zak, Princeton, NJ : Princeton University Press, pp.204-228.

Persson, T., & Tabellini, G. 1994. "Is Inequality Harmful for Growth? " *The American Economic Review, 84*(3), pp. 600-621.

Rosser, Barkley and Marina Rosser. 2008. "A critique of the new comparative economics." *Review of Austrian Economics*, Vol. 21, no. 01, pp. 81-97.

Satyanath, Shanker, Nico Voigtlaender, and Hans-Joachim Voth. 2013. *Bowling for fascism: social capital and the rise of the Nazi Party*. No. w19201. National Bureau of Economic Research.

Skarbek, David. 2011. "Governance and prison gangs." *American Political Science Review*, Vol. 105, no. 04, pp. 702-716.

Smith, Adam, Richard Wagner and Bruce Yandle. 2011. "A theory of entangled political economy, with application to TARP and NRA." *Public Choice*, Vol. 148, no.1-2, pp. 45-66.

Stringham, Edward. 2015. *Private Governance : Creating Order in Economic and Social Life.* Oxford : Oxford University Press.

Volckart and Antje Mangels. 1999. "Are the roots of the modern lex mercatoria really medieval?" *Southern Economic Journal*, Vol. 65, no. 3, pp. 427-450.

Tullock, Gordon. 1967. "The welfare costs of tariffs, monopolies, and theft." *Economic Inquiry* Vol 5, no. 3, pp.224-232

Volckart, Oliver and Antje Mangels. 1999. "Are the roots of the modern lex mercatoria really medieval?" *Southern Economic Journal*, Vol. 65, no. 3, pp. 427-450.

Voitchovsky, Sarah. 2009. "Inequality and Economic Growth" in *Oxford Handbook of Economic Inequality* eds. Brian Nolan, Wiemer Salverda and Timothy Smeeding, Oxford : Oxford University Press, pp.549-574.

Welch, Finis. "In defense of inequality." *American Economic Review,* Vol.89, no. 2, pp. 1-17.

Williamson, Claudia and Rachel Mathers. 2011. "Economic Freedom, Culture and Growth." *Public Choice*, Vol. 148, pp. 313-335.

Zak, Paul J., and Stephen Knack. 2001. "Trust and Growth." *Economic Journal,* Vol.111, no. 470, pp. 295-321.

Appendix

Table A1: Multivariate regressions with guards per 1000 population

Variables	(A1) G/P	(A2) G/P	(A3) G/P	(A4) G/P	(A5) G/P	(A6) G/P
ln total income Gini	6.755***					
	(2.199)					
ln disposable income Gini		-0.369				
		(0.683)				
ln market income Gini			-0.799			
			(0.546)			
ln Gini, Frank (2014)				-0.541		
				(1.644)		
ln top 5%, Frank (2014)					-0.248	
					(0.689)	
ln top 1%, Frank (2014)						-0.236
						(0.444)
ln income	-0.483	0.815	0.745	0.831	0.903	1.007
	(0.903)	(1.102)	(1.061)	(1.139)	(1.219)	(1.240)
ln urban density	0.539**	0.919**	0.913**	0.912*	0.918*	0.955**
	(0.272)	(0.445)	(0.386)	(0.475)	(0.478)	(0.469)
ln drug poisoning	0.0674	0.101	0.1000	0.0650	0.0791	0.0770
	(0.152)	(0.181)	(0.173)	(0.177)	(0.175)	(0.172)
ln prohibition spending	0.428**	0.452	0.484*	0.472*	0.453*	0.459*
	(0.218)	(0.283)	(0.288)	(0.286)	(0.275)	(0.274)
ln households with guns	0.224	0.0282	0.00626	0.0364	0.0283	0.0349
	(0.179)	(0.157)	(0.150)	(0.159)	(0.160)	(0.160)
ln poverty rate	-0.647	0.658	0.661	0.686	0.707	0.725
	(0.579)	(0.474)	(0.462)	(0.515)	(0.534)	(0.521)
Constant	-10.01*	-5.340	-3.270	-5.904	-6.832	-7.498
	(5.255)	(5.860)	(5.297)	(5.811)	(6.261)	(6.517)
Observations	51	51	51	51	51	51
R-squared	0.573	0.422	0.443	0.420	0.421	0.425
R-squared Adj	0.504	0.328	0.352	0.326	0.327	0.332
VIF	2.27	1.56	1.48	1.69	1.71	1.72

Bootstrapped errors (100 rounds) in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table A2: Multivariate regressions with supervisory labor (enforcement excluded) per 1000 population

Variables	(A7) S/P	(A8) S/P	(A9) S/P	(A10) S/P	(A11) S/P	(A12) S/P
ln total income Gini	1.260*					
	(0.759)					
ln disposable income Gini		-0.143				
		(0.203)				
ln market income Gini			-0.194			
			(0.181)			
ln Gini coefficient, Frank (2014)				-0.104		
				(0.485)		
ln top 5%, Frank (2014)					-0.163	
					(0.223)	
ln top 1%, Frank (2014)						-0.0960
						(0.140)
ln income	0.383	0.639	0.612	0.629	0.717	0.719
	(0.385)	(0.446)	(0.421)	(0.477)	(0.512)	(0.526)
ln urban density	0.0517	0.137	0.125	0.122	0.156	0.153
	(0.116)	(0.145)	(0.128)	(0.169)	(0.177)	(0.174)
ln drug poisoning	0.0100	0.0211	0.0174	0.00953	0.0129	0.0117
	(0.0498)	(0.0494)	(0.0459)	(0.0405)	(0.0415)	(0.0401)
ln prohibition spending	0.0977	0.104	0.110	0.106	0.107	0.107
	(0.0781)	(0.0784)	(0.0801)	(0.0862)	(0.0797)	(0.0807)
ln households with guns	0.0268	-0.0101	-0.0151	-0.00810	-0.0106	-0.00739
	(0.0607)	(0.0447)	(0.0427)	(0.0469)	(0.0459)	(0.0466)
ln poverty rate	-0.0707	0.177	0.175	0.178	0.215	0.205
	(0.213)	(0.191)	(0.185)	(0.215)	(0.222)	(0.217)
Constant	-3.610	-2.558	-2.187	-2.843	-3.296	-3.420
	(2.439)	(2.181)	(2.009)	(2.200)	(2.658)	(2.838)
Observations	51	51	51	51	51	51
R-squared	0.429	0.373	0.382	0.366	0.383	0.380
R-squared Adj	0.336	0.271	0.282	0.262	0.283	0.279
VIF	2.27	1.56	1.48	1.69	1.71	1.72

Bootstrapped errors (100 rounds) in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table A3: Multivariate regressions with guards per 1000 workforce

Variables	(A13) G/W	(A14) G/W	(A15) G/W	(A16) G/W	(A17) G/W	(A18) G/W
ln total income Gini	6.317***					
	(1.928)					
ln disposable income Gini		-0.152				
		(0.600)				
ln market income Gini			-0.595			
			(0.499)			
ln Gini coefficient, Frank (2014)				-0.338		
				(1.520)		
ln top 5%, Frank (2014)					-0.0401	
					(0.580)	
ln top 1%, Frank (2014)						-0.125
						(0.383)
ln income	-1.143*	0.0324	0.00465	0.0577	0.0289	0.142
	(0.695)	(0.815)	(0.815)	(0.832)	(0.839)	(0.868)
ln urban density	0.559**	0.876**	0.896***	0.888**	0.858**	0.904**
	(0.234)	(0.357)	(0.311)	(0.364)	(0.363)	(0.356)
ln drug poisoning	0.0713	0.0905	0.0975	0.0729	0.0810	0.0805
	(0.144)	(0.180)	(0.177)	(0.181)	(0.176)	(0.175)
ln prohibition spending	0.398**	0.416*	0.443*	0.430*	0.414*	0.420*
	(0.184)	(0.247)	(0.254)	(0.253)	(0.243)	(0.242)
ln households with guns	0.213	0.0305	0.0135	0.0352	0.0311	0.0338
	(0.163)	(0.146)	(0.143)	(0.145)	(0.145)	(0.145)
ln poverty rate	-0.615	0.595*	0.604*	0.616*	0.597*	0.633*
	(0.468)	(0.342)	(0.345)	(0.363)	(0.361)	(0.360)
Constant	-5.900*	-2.009	-0.168	-2.169	-2.476	-3.044
	(3.562)	(4.667)	(4.319)	(4.458)	(4.151)	(4.280)
Observations	51	51	51	51	51	51
R-squared	0.608	0.455	0.470	0.455	0.454	0.457
R-squared Adj	0.544	0.366	0.384	0.367	0.365	0.368
VIF	2.27	1.56	1.48	1.69	1.71	1.72

Bootstrapped errors (100 rounds) in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table A4: Multivariate regressions with supervisory labor (enforcement excluded) per 1000 workforce

Variables	(A19) S/W	(A20) S/W	(A21) S/W	(A22) S/W	(A23) S/W	(A24) S/W
ln total income Gini	0.911**					
	(0.433)					
ln disposable income Gini		-0.0254				
		(0.120)				
ln market income Gini			-0.0767			
			(0.100)			
ln Gini coefficient, Frank (2014)				-0.0320		
				(0.261)		
ln top 5%, Frank (2014)					-0.0581	
					(0.118)	
ln top 1%, Frank (2014)						-0.0409
						(0.0737)
ln income	0.0412	0.211	0.207	0.212	0.244	0.252
	(0.189)	(0.211)	(0.201)	(0.222)	(0.232)	(0.238)
ln urban density	0.0582	0.105	0.106*	0.104	0.117	0.119
	(0.0474)	(0.0696)	(0.0608)	(0.0780)	(0.0818)	(0.0807)
ln drug poisoning	0.0147	0.0177	0.0182	0.0153	0.0164	0.0160
	(0.0291)	(0.0310)	(0.0291)	(0.0271)	(0.0277)	(0.0270)
ln prohibition spending	0.0733	0.0760*	0.0793*	0.0771	0.0778*	0.0781*
	(0.0469)	(0.0459)	(0.0468)	(0.0479)	(0.0462)	(0.0461)
ln households with guns	0.0217	-0.00458	-0.00674	-0.00407	-0.00490	-0.00363
	(0.0411)	(0.0296)	(0.0287)	(0.0298)	(0.0289)	(0.0292)
ln poverty rate	-0.0275	0.147*	0.148*	0.149	0.162*	0.161*
	(0.112)	(0.0870)	(0.0845)	(0.0944)	(0.0949)	(0.0935)
Constant	-1.282	-0.712	-0.489	-0.755	-0.913	-0.992
	(1.050)	(1.069)	(0.984)	(1.057)	(1.182)	(1.248)
Observations	51	51	51	51	51	51
R-squared	0.482	0.385	0.392	0.384	0.391	0.392
R-squared Adj	0.398	0.284	0.293	0.284	0.292	0.293
VIF	2.27	1.56	1.48	1.69	1.71	1.72

Bootstrapped errors (100 rounds) in parentheses

*** p<0.01, ** p<0.05, * p<0.1

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