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**Working Paper**

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ifo Working Paper, No. 229

**Provided in Cooperation with:**

Ifo Institute – Leibniz Institute for Economic Research at the University of Munich

*Suggested Citation:* Gutmann, Jerg; Neuenkirch, Matthias; Neumeier, Florian (2016) : Precision-Guided or Blunt? The Effects of US Economic Sanctions on Human Rights, ifo Working Paper, No. 229, ifo Institute - Leibniz Institute for Economic Research at the University of Munich, Munich

This Version is available at:

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Precision-Guided or Blunt?  
The Effects of US Economic Sanctions on Human Rights

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Ifo Working Paper No. 229

November 2016

An electronic version of the paper may be downloaded from the Ifo website  
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## Precision-Guided or Blunt? The Effects of US Economic Sanctions on Human Rights\*

### Abstract

This study contributes to the literature that analyzes the consequences of economic sanctions for the target country's human rights situation. We offer a political economy explanation for different types of human rights infringements or improvements in reaction to economic shocks caused by sanctions. Based on this, we derive hypotheses linking sanctions to four types of human rights: economic rights, political and civil rights, basic human rights, and emancipatory rights. We use endogenous treatment regression models to estimate the causal average treatment effect of US economic sanctions on each type of human rights within a uniform empirical framework. In contrast to previous studies, we find no adverse effects of sanctions on economic rights, political and civil rights, and basic human rights, once the endogenous selection into sanctions is modelled. With respect to women's rights, our findings even indicate a positive relationship. Emancipatory rights are, on average, strengthened when a country experiences sanctions by the US. Our findings are robust and we find little evidence for effect heterogeneity between types of target countries or sanctions. Most importantly, this study shows that the endogeneity of treatment assignment must be modelled when the consequences of sanctions are studied empirically.

JEL Code: F51, F52, F53, K10, K11, P14, P16, P26.

Keywords: Democratization, discrimination, economic sanctions, endogenous treatment model, human rights, repression, United States.

First draft: 7 July 2016.

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\* Thanks to Paul Schaudt, Akiva Weiss, Alexander Wulf, as well as participants of the 2016 EMLE Mid-term Meeting, the 2016 European Public Choice Society Conference, the 2016 Silvaplana Workshop in Political Economy, and the 2016 European Association of Law and Economics Annual Meeting for their helpful comments on earlier versions of the paper. The usual disclaimer applies.

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## 1. Introduction

A growing body of economic and political science literature deals with the use of economic sanctions as an instrument in international politics to coerce states to comply with the rules set out by international law. One example is the implementation of sanctions by the United States and the European Union following the 2014 annexation of Crimea by the Russian Federation. Sanctions are not only employed as a response to infringements of international law, but also to address human rights violations. The United States, for example, imposed sanctions on dozens of Russian officials for their involvement in the 2009 death of an imprisoned Russian lawyer who fought against government corruption. Relying on sanctions instead of alternative means of coercion raises hopes that international military conflicts might be avoided. However, the use of sanctions has been criticized because of the potential damage the sanctions may inflict on the civil population (de Waart 2015; Peksen 2011). Allen and Lektzian (2012) argue that economic sanctions can have severe public health consequences for the population of a targeted country. Their empirical findings indicate that highly effective sanctions have adverse health effects that are comparable to those resulting from major military conflicts. Indeed, negatively affecting the target country's population is not only an unfortunate side effect of sanctions, but a central element of the causal mechanism, which ideally results in a compliant reaction by the targeted country's political regime.

Hafner-Burton (2014) stresses the theoretically more ambiguous relationship between sanctions and the protection of human rights. On the one hand, sanctions can motivate concessions to improve human rights, if a political regime is starved of the resources it needs to oppress disobedient groups within its population. On the other hand, sanctions may escalate a tense human rights situation, if the population is incentivized to dissent and political leaders are deprived of the economic means to compensate them for their loyalty. Understanding the human rights consequences of economic sanctions is of fundamental importance for evaluating sanctions as a policy instrument. As noted by Simonen (2015, p. 192): "The discussion, by the judiciary and by the general public, on human casualties and humanitarian suffering, *in numbers*, is an absolute necessity for the definition of *what is acceptable damage* in the light of various human rights commitments assumed by states."

The extant empirical evidence tends to support the notion that economic sanctions are associated with a deterioration of human rights protection. Table A1 in the Appendix

surveys 11 published articles that empirically evaluate the effect of economic sanctions on the human rights situation in the target state. The majority of the studies report dispiriting results. The adverse economic shock on a country targeted by sanctions not only motivates infringements of economic rights and political rights through confiscation of private property (Peksen 2016b) and political repression (Peksen and Drury 2009; 2010), but also infringements of basic human rights (Escribà-Folch 2012; Peksen 2009; Wood 2008). These effects appear to be the same for both broad and targeted sanctions (Carneiro and Apolinário 2016). Moreover, sanctions may amplify discrimination against marginalized groups in society, especially ethnic minorities (Peksen 2016a). However, there are opposing findings as well. In contrast to Peksen and Drury (2010), Soest and Wahman (2015) do not find any statistically significant relationship between economic sanctions in general and the degree of political repression. On the contrary, they report a positive association between sanctions aimed at promoting democratization and democratic transition.

The literature on sanctions not only exhibits some contradictory results, but the tested empirical models also suffer from several drawbacks. First, the potential endogeneity of economic sanctions is ignored. In many cases, the imposition of economic sanctions is motivated by the existence of an unfavorable human rights situation, or coincides with political and social transition. Forty-eight percent (113 out of 235) of the country-year observations in our sample of US imposed sanctions were justified by the human rights situation in the target country. Given this reality, it is of particular importance to take the endogeneity of sanctions into account. Second, empirical studies typically rely on single, narrowly defined indicators for a country's human rights situation. This limited perspective neglects the multi-dimensionality of human rights and the interdependence between these dimensions. Finally, the effects of sanctions on different measures of human rights (economic rights, political rights, basic human rights, and emancipatory rights) are tested using different empirical methods and model specifications, making comparisons across studies very difficult.

This study offers a number of improvements to the literature dealing with the consequences of economic sanctions on human rights. First, we systematically evaluate political economy explanations for a political regime's reaction to economic shocks caused by the imposition of sanctions. Based on this theoretical framework, we derive empirically testable hypotheses linking economic sanctions to four different human

rights dimensions: economic rights, political and civil rights, basic human rights, and emancipatory rights. Second, we evaluate the effect of US economic sanctions on each of these four human rights dimensions within a uniform empirical framework, where we can also take the interdependence between different human rights dimensions into account. To do so, we draw on two novel datasets that address human rights protection (Gutmann and Voigt 2015) and US economic sanctions (Neuenkirch and Neumeier 2015; 2016). Third, we take the endogeneity of US economic sanctions into account by using endogenous treatment-regression models. More precisely, we use the potential target country's geographical and genetic distance from the US, as well as its voting alignment with the US in the UN General Assembly, as treatment instruments for our sanctions indicator. In addition, we account for heterogeneity between sanctioned and non-sanctioned countries by allowing the parameters of our empirical model to differ across these two groups. This flexibility gives us confidence that our estimates can be interpreted causally. Our key finding is that once the endogeneity of treatment assignment is taken into account, the adverse human rights consequences of sanctions expressed in large parts of the literature are no longer supported by the data. Emancipatory rights are, on average, even strengthened when a country faces sanctions imposed by the US.

In the next section, we develop our theoretical arguments and derive a set of hypotheses. Section 3 describes the data set and the methodology used to estimate causal average treatment effects. Section 4 discusses our empirical findings and Section 5 concludes.

## **2. Theory and Hypotheses**

To understand the possible human rights consequences of economic sanctions, it is essential to be aware of the economic effects that are found to be associated with the imposition of economic sanctions. Countries subject to sanctions experience both an increase in poverty and income inequality (Choi and Luo 2013; Neuenkirch and Neumeier 2016) as well as a decrease in economic growth (Hufbauer et al. 2009; Neuenkirch and Neumeier 2015). This is important here because it has been widely argued that negative economic shocks such as a decline in income or an increase in inequality help citizens coordinate resistance against the elites (Acemoglu and Robinson

2001; Knutsen 2014). In other words, adverse economic shocks allow citizens to overcome the collective action problem inherent in revolutions (Tullock 1971). In line with this argument, Allen (2008) shows that anti-government activities do increase under economic sanctions and Marinov (2005) provides empirical evidence that sanctions destabilize political leaders. Obviously, political leaders do well to take the threats caused by economic sanctions seriously. Even though the probability of violent conflict or a coup d'état increases with adverse economic shocks (see Gassebner et al. 2016; Miguel et al. 2004), our argument is that the human rights situation under sanctions depends on how politicians react to the mere threat of such an escalation of conflict.

Wintrobe (2000) argues that dictators have two basic strategies to deal with internal threats. They can redistribute resources to buy the loyalty of the citizens, or they can use repression to discourage the citizens from revolting. The choice between these policy instruments is determined by their relative cost effectiveness in preventing revolutions. In the models of Acemoglu and Robinson (2001, 2006), the elites can choose a third strategy. They can democratize voluntarily to avoid being removed from office in a violent revolution. After democratization, the majority of the population, that is, the poor, gain control over the state and can decide on the level of redistribution in the present and the future. Why is democratization then different from using redistribution? An increase in tax rates in non-democracies can be reversed as soon as the citizens no longer pose a threat. In other words, the elites cannot credibly commit to permanent redistributive policies if non-democratic institutions persist and the *de facto* power of citizens is only transitory. Democracy allows such a credible commitment by handing over the *de jure* power to the citizens.

Next, we discuss how different dimensions human rights should be affected by economic sanctions. One important effect of sanctions concerns economic rights. A political regime may react to sanctions by redistributing resources to those members of society on whose continued support it depends. Redistribution is not only possible via monetary transfers, but also by government interference in economic rights. This is a central argument in the rent-seeking literature (Drezner 2011, p. 100; Krueger 1974). Reduced property rights protection and other restrictions on economic liberties, such as price caps, can be used to lower the risk of a revolution by appeasing the majority of the population, or powerful groups within the population. As Peksen (2016b) points out, the

ruling elite may not only overtly violate property rights itself and target these violations against the political opposition, but they might also tacitly condone predatory actions of their key supporters by not enforcing laws that would protect private property. However, market interventions not only shield citizens and politically connected business people from the adverse consequences of sanctions, but politicians may also use the scarcity created by sanctions to appropriate rents for themselves. Rowe (2001), for example, explains how scarcity exacerbated by economic sanctions led the government of Rhodesia to organize a public distribution cartel for tobacco (see Kaempfer and Lowenberg (1999) for a more general discussion). These political economy arguments assume that politics are determined by the self-interest of politicians. If that was not the case, economic rights might even improve under sanctions, as well-functioning markets might be the best hope to mitigate the adverse effects of economic sanctions on the economy and eventually the citizens.

H1a: Economic sanctions have a negative effect on the level of economic rights in the target country.

H1b: Economic sanctions have a positive effect on the level of economic rights in the target country.

The effect of economic sanctions on political and civil rights is ambiguous as well. On the one hand, a transfer of *de jure* political power to the citizens might be the *ultima ratio* to stop discontented citizens from revolting, as is argued in the models by Acemoglu and Robinson (2001, 2006). On the other hand, governments targeted by economic sanctions may prefer to repress the population, which is very likely accompanied by violations of political and civil rights. Thus, theoretically, either a democratic or a non-democratic transition may occur when sanctions are implemented and it is unclear which of the two effects prevails. Peksen and Drury (2009; 2010) argue that opposition groups may gain momentum when the government is put under pressure by external actors and that the government will react by limiting political rights to signal its willingness to go against active political dissent. This effect is amplified if the grievances caused by sanctions lead to anti-government violence. Although the argumentation of Peksen and Drury (2009) is somewhat contradictory (opposition groups, for example, are at the same time weakened and better mobilized



due to sanctions), it further supports that the theoretical association between sanctions and political rights is inconclusive. Oechslin (2014) introduces a political economy model to explain why sanctions may fail to bring about regime change, whereas Soest and Wahman (2015) argue that sanctions specifically aimed at inducing democratic change, so-called democratic sanctions, may lead to more extensive political liberties. Taking the above arguments together we arrive at two opposing hypotheses regarding the relationship between sanctions and political rights.

H2a: Economic sanctions have a negative effect on the level of political rights in the target country.

H2b: Economic sanctions have a positive effect on the level of political rights in the target country.

We have already argued that repression is one way for the government to react and this would likely entail violations of basic human rights. Verwimp's (2003) political-economic analysis of the genocide in Rwanda shows how desperately a regime can react to threats resulting from economic hardship. In addition, we have also noted that repression as a policy instrument is compared to redistribution in terms of its costs and its effectiveness. Acemoglu and Robinson (2000) offer an additional argument in favor of repression if there is asymmetric information about the elite's strength. The citizens might interpret economic concessions by the elites as a sign of weakness, which makes the use of repression relatively more attractive. Wood (2008) points out that a regime under economic sanctions may simply lack the necessary resources to placate its citizens and hence has to fall back on repressive measures. Use of repression in response to economic sanctions may indeed be cheap, if the regime is able to portray them as an external threat to national unity that legitimizes a harsh reaction (Peksen 2009).

H3a: Economic sanctions lead to more extensive violations of basic human rights in the target country.

Although sanctions may exacerbate human rights violations by instigating repressive measures by the ruling elite, sanctions are frequently employed to put pressure on countries to refrain from these very violations of basic human rights. Hence, target countries face incentives to improve their human rights situation and to end at least the

more visible forms of rights violations. Moreover, Peksen (2009) argues that sanctions may weaken the target regime's coercive capacity—by denying them economic and military resources required for maintaining political stability—and thereby reduce basic human rights violations. This would imply the following hypothesis, which is diametrically opposed to H3a.

H3b: Economic sanctions lead to less severe violations of basic human rights in the target country.

So far we have focused on the conflict between the general population and the elites. This perspective, however, neglects that primarily powerless social groups might be threatened when societies face income shocks. An extreme case is certainly that of 'witch killings' in rural Tanzania, as studied by Miguel (2005). The literature on the economics of discrimination suggests that discrimination, for example, in the labor market, is less costly during economic downturns for those who discriminate, as there is a temporary excess supply of labor (see, e.g., Becker 1971). Drury and Peksen (2014) argue explicitly that economic grievances caused by sanctions lead to increased violations of women's rights.

H4a: Economic sanctions have a negative effect on the level of women's rights in the target country.

In contrast, the so-called added worker effect predicts that an economic shock may force non-working women to take up a job and contribute to the household income. This could lead to pressure against gender discrimination. Neumark and Postlewaite (1998) add that already the entry of some women could incentivize other women to also join the workforce. On a general level, Alesina et al. (2013) demonstrate, although in a very different context, that such incentivized gender roles can have important consequences for the role of women in society. Doepke et al. (2012) summarize and interpret the literature on culture and women's rights in the same way: "the ultimate cause of political reform was economic change that altered attitudes toward women" (p. 355).

Geddes and Lueck (2002) offer a very straightforward explanation of the extension of women's rights based on property rights theory. When women's labor market opportunities improve, husbands initially hold all legal power but are unable to control the effort level exerted by women at work. The family income could, thus, be increased

by endowing women with economic rights to incentivize them to exert higher effort. Similarly, Bertocchi (2011) explains the extension of women's political rights by their labor market opportunities and the resulting reduction in the gender wage gap. If, as a consequence, the gap between the tax rates preferred by male and female voters declines, men are more likely to support the extension of women's political rights.

H4b: Economic sanctions have a positive effect on the level of women's rights in the target country.

### 3. Empirical Methodology and Data

#### 3.1 Human Rights and Sanctions Indicators

As dependent variables, we employ four different human rights indicators. They come from a new dataset that measures human rights protection in four empirically distinguishable dimensions as proposed by Blume and Voigt (2007); basic human rights, economic rights, civil and political rights, and emancipatory and social rights. Blume and Voigt (2007) apply principal component analysis (PCA) to 24 human rights indicators from different data sources covering a cross-section of 137 countries. Their PCA identifies four distinct latent variables representing each of the theoretically predicted categories of human rights. Gutmann and Voigt (2015) replicate the original PCA of Blume and Voigt (2007) using a panel dataset comprising 19 well-established human rights indicators. The indicators are taken from the CIRI dataset, the Fraser Institute, as well as Freedom House.<sup>1</sup> Table 1 shows the varimax rotated factor loadings with Kaiser normalization as in Gutmann and Voigt (2015).

The results of Gutmann and Voigt (2015) are even more clear-cut regarding the empirical distinction of the theoretically prescribed human rights dimensions. The four principal components cover up to 121 countries over the period from 1981 to 2011. The bivariate correlations among the four components are around 0.60. It should be noted that all four indicators reflect the *de facto* human rights situation in a country. This

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<sup>1</sup> The concrete indicators are the following. Cingranelli and Richards (2010); disappearances, political or extrajudicial killings, political imprisonment, torture, freedom of assembly and association, freedom of domestic and foreign travel, freedom of speech, electoral self-determination, freedom of religion, workers' rights, and women's political, economic, and social rights. Freedom House (2014); political rights and civil liberties. Gwartney et al. (2014); freedom in the legal system and property rights, freedom to trade internationally, and freedom from regulation.

makes sense in light of our research design, as many policies adopted by a regime in reaction to sanctions do not necessarily require legal changes or, in the case of repressive policies, are often not even legal. Property rights, for example, could be improved or weakened by rewriting parts of the constitution (however, see Voigt and Gutmann (2013) for the limitations of such an approach), but increased expropriation could just as well be based on existing laws. In our analysis, we standardize the four components so that each of them has a mean of 0 and a standard deviation of 1 in order to facilitate the interpretation of our coefficient estimates.

Table 1: Principal Component Analysis of Human Rights Dimensions

Variable	Comp 1	Comp 2	Comp 3	Comp 4	Unexpl.
Disappearances		0.53			0.40
Extrajudicial Killings		0.56			0.26
Political Imprisonment		0.25			0.40
Torture		0.44			0.35
Freedom of Assembly	0.38				0.27
Freedom of Foreign Movement	0.38				0.31
Freedom of Domestic	0.31				0.56
Freedom of Speech	0.32				0.42
Electoral Self-Determination	0.35				0.26
Freedom of Religion	0.32				0.49
Worker's Rights					0.47
Women's Economic Rights			0.57		0.23
Women's Political Rights			0.42		0.50
Women's Social Rights			0.56		0.21
Legal Structure and Property				0.36	0.23
Regulation				0.63	0.26
Freedom to Trade				0.60	0.20
Political Rights	-0.32				0.18
Civil Liberties	-0.29				0.14

Source: Gutmann and Voigt (2015). Factor loadings are omitted if  $|\text{loading}| < 0.25$ .

Our main explanatory variable, the sanction indicator, takes on the value 1 if a certain country  $i$  is subject to US economic sanctions in year  $t$ , and 0 otherwise. We rely on a unique dataset by Neuenkirch and Neumeier (2015) covering all US sanction episodes between 1976 and 2012. This dataset is an extension of the dataset by Hufbauer et al. (2009). After adjusting the sample of Neuenkirch and Neumeier (2015) to the smaller human rights dataset of Gutmann and Voigt (2015), 235 country-year observations with

US sanctions in place remain. The countries included in our final dataset as well as the sanction episodes are listed in Table A2 in the Appendix.

In the context of our empirical analysis and following the extant empirical literature, we also estimate separate effects for different types of economic sanctions. First, we evaluate the effect of sanctions that impose *low costs* versus those imposing *high costs* on the target state. To this end, we utilize estimates of the sanction-induced decline of the target state's GNP provided by Hufbauer et al. (2009), which is available for 205 sanction country-years. We consider sanctions that lead to a decline in the target state's GNP by less than 1% as *low cost* sanctions (129 observations) and sanctions associated with a decline of 1% of GNP or more as *high cost* sanctions (76 observations). Second, we differentiate between *unilateral* sanctions imposed by only the United States (133 observations) and *multilateral* sanctions where the United States was joined by other nations or international organizations (102 observations). Third, we differentiate between sanction episodes imposed because of *human rights violations* (113 observations) and those imposed for *other reasons* (122 observations). Reasons for why sanctions were imposed are provided by Hufbauer et al. (2009). Fourth, we distinguish between sanctions targeted against *democratic* states as measured by a polity2 score of six or higher before the imposition of sanctions (40 observations) and against *non-democratic* states (195 observations). Finally, we examine the impact US sanctions have over time by creating three subgroups. We distinguish observations where sanctions have been in place for *less than six years* (91 observations), for *six to ten years* (58 observations), and for *eleven or more years* (86 observations), respectively.

### 3.2 Estimation Strategy

In our empirical analysis, we consider the imposition of US economic sanctions as a treatment. Consequently, our treatment group is comprised of observations on countries in years under sanctions, while country-year observations without sanctions in place are the control group. Our goal is to estimate the average treatment effect on the treated (ATT), which is defined as follows:

$$(1) \text{ ATT} = E[y_{1it} | d_{it} = 1] - E[y_{0it} | d_{it} = 1]$$

The first term on the right-hand side of Equation (1) represents the expected outcome in the treatment group after treatment ( $d_{it} = 1$ ), the second term is the counterfactual outcome, that is, the expected outcome subjects in the treatment group would have achieved if treatment had not been assigned ( $d_{it} = 0$ ). The problem is that the counterfactual outcome is not observable and, thus, a suitable substitute is required to compute the ATT. If treatment is assigned randomly, then the average outcome for units not exposed to treatment constitutes a proper substitute, as selection into treatment is not related to factors affecting the outcome of interest. The imposition of economic sanctions, though, is clearly not random, making the identification of the ATT difficult.

To account for the endogeneity of the treatment, and to evaluate the causal influence of US economic sanctions on the target states' respect for human rights, we employ an endogenous treatment model. Endogenous treatment models allow identification of the causal effect although selection into treatment is based on unobservable factors that also affect the outcome of interest. Identification presupposes the availability of at least one variable that affects treatment assignment, but is not directly related to the outcome.<sup>2</sup>

Suppose that the outcome for the treatment and control group, respectively, can be modelled by means of the following equations, which we refer to as the outcome model:

$$(2) y_{0it} = x'_{it}\beta_0 + u_{0it}$$

$$(3) y_{1it} = x'_{it}\beta_1 + u_{1it}$$

where  $y_1$  is the outcome with treatment,  $y_0$  is the outcome without treatment, and  $x$  is a vector of covariates that potentially explain the outcome for both the treatment and the control group.

It is important to note that the coefficients of the covariates in the vectors  $\beta_0$  and  $\beta_1$  can differ between Equations (2) and (3). Thus, our empirical approach is characterized by a great deal of flexibility as we allow for heterogeneity across the treatment and control group with regard to the effect of each covariate on the outcome.

To account for the endogeneity of treatment assignment, Equations (2) and (3) are complemented by a binary choice model that explains selection into treatment:

$$(4) d_{it} = z'_{it}\gamma + v_{it}$$

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<sup>2</sup> The endogenous treatment model employed here was first introduced by Heckman (1976; 1978). See Cameron and Trivedi (2005) for a thorough discussion.

where  $d_{it}$  is a latent variable, which is assumed to be standard normally distributed such that

$$d_{it} \begin{cases} 1 \text{ iff } d_{it} > 0 \\ 0 \text{ iff } d_{it} \leq 0 \end{cases}$$

and  $z$  is a vector of covariates that affect the likelihood of being selected into treatment.

To see how the endogeneity of treatment assignment affects the outcome of interest, it is helpful to take a look at the relation between the error terms of Equations (2) to (4). Assume that the vector of error terms  $(u_{0it}, u_{1it}, v_{it})$  comes from a mean zero trivariate normal distribution and has the following covariance matrix:

$$\Sigma = \begin{bmatrix} \sigma_0^2 & \sigma_{01} & \sigma_0\rho_0 \\ \sigma_{01} & \sigma_1^2 & \sigma_1\rho_1 \\ \sigma_0\rho_0 & \sigma_1\rho_1 & 1 \end{bmatrix}$$

Endogeneity of treatment occurs when the off-diagonal elements  $\sigma_0\rho_0$  and  $\sigma_1\rho_1$  are different from zero. In contrast, exogeneity of treatment implies that  $\rho_0 = 0$  and  $\rho_1 = 0$ , i.e., the outcome of interest is not related to unobservables affecting the likelihood of treatment assignment.  $\rho_0$  measures the correlation between the treatment assignment errors and the outcome errors for the control group,  $\rho_1$  the correlation between the treatment assignment errors and the outcome errors for the treatment group. These coefficients allow us to assess the importance of the selection effect for the outcome of interest. For example, a treatment group that has a negative (positive) value of  $\rho_1$  implies that unobservables that negatively affect a country's human rights situation tend to concur with unobservables that increase (decrease) the likelihood of being subject to US economic sanctions. For identification, the variance of  $v$  is restricted to 1.

For the endogenous treatment model, the ATT is given by:

$$(5) \text{ ATT} = x'_{it}(\beta_1 \quad \beta_0) + (\sigma_0\rho_0 \quad \sigma_1\rho_1) \frac{\phi(z'_{it}\gamma)}{\Phi(z'_{it}\gamma)}$$

where  $\phi(\cdot)$  and  $\Phi(\cdot)$  represent the density function and the distribution function, respectively, of the standard normal distribution. Equation (5) illustrates that the size of the treatment effect depends on three factors: (i) the realizations of the covariates, i.e., the vector  $x$ ; (ii) the heterogeneity of each covariate's effect on the outcome across the treatment and control group, i.e.  $(\beta_1 \quad \beta_0)$ ; and (iii) the selection effect, denoted by the

term  $(\sigma_0\rho_0 \ \sigma_1\rho_1)\phi(z'_{it}\gamma)/\Phi(z'_{it}\gamma)$ . All parameters that need to be identified to compute the ATT can be estimated simultaneously by Maximum Likelihood (see Maddala (1983) for a formal derivation of the likelihood function).

In general, vector  $z$  of Equation (4) may, but does not have to, overlap with the vector of covariates  $x$  employed in the outcome model. However, the ATT requires the identification of  $\sigma_0\rho_0$  and  $\sigma_1\rho_1$  and, thus, that at least one variable in vector  $z$  is not included in vector  $x$ . This non-included variable needs to be correlated with the likelihood of receiving treatment, but uncorrelated with the error terms in the outcome model. We may refer to a variable fulfilling these conditions as a treatment instrument.

The endogenous treatment model employed in our empirical analysis is closely related to the regime-switching regression model as well as the Heckman selection model. Since the outcome equation is regime-dependent, i.e., it varies depending on whether the (endogenously determined) treatment is 'switched' on or off, the model depicted by Equations (2) to (4) is also referred to as an endogenous switching regression model. Further, the endogenous treatment model can be interpreted as a double sample selection problem (Clougherty et al. 2015: 298), and one could alternatively estimate two separate Heckman selection models for the treated and untreated units. The main difference between estimating an endogenous treatment model versus two Heckman selection models is that in the latter approach, the parameter  $\sigma_{01}$ , i.e., the covariance between the error terms for the treated and untreated units, is implicitly set to zero. Furthermore, the latter approach is less efficient, as only the subsample of the treated and untreated units, respectively, is used to identify the parameters of interest.

As a benchmark, we use simple OLS regressions to evaluate the influence of US economic sanctions on the targeted governments' respect for human rights. For this purpose, we estimate the following equation:

$$(6) \ y_{it} = x'_{it}\tilde{\beta} + \delta \text{sanctions}_{it} + \tilde{u}_{it}$$

where the vector of covariates  $x$  is the same as in Equations (2) and (3). By comparing the findings from simple OLS regressions to those obtained from the endogenous treatment-regression models, we should be able to assess the importance of the endogeneity of the treatment for the results presented in the extant empirical literature.



### *3.3 Control Variables and Treatment Instruments*

In our empirical analysis, the vector of covariates in the treatment model (vector  $z$ ) includes factors that we expect will affect the likelihood of being targeted by US economic sanctions. According to Hufbauer et al. (2009), US sanctions have been primarily imposed for three reasons: (i) to coerce states (or militant groups within states) to stop threatening or infringing the sovereignty of another state by, for example, engaging in violence against another state or destabilizing its government; (ii) to foster democratic change in a country, protect democracy, or destabilize an autocratic regime; and (iii) to protect the citizens of a state from political repression and to enforce human rights. Choi and James (2016) provide evidence that US intervention is primarily due to the third reason.

Consequently, we include one-year lagged realizations of our human rights indicators into vector  $z$ . We also account for a country's level of democracy. Further, we take into account; (i) interstate armed conflicts, (ii) internal armed conflicts without intervention from other states, and (iii) internationalized internal armed conflicts with intervention from other states. For all three types of conflict we include separate dummy variables for minor conflicts and wars, respectively. Finally, we add US President-fixed effects to control for President-specific and time-specific influences such as differences with respect to the foreign policy stance across tenures of US Presidents (Reagan, Bush Sr., Clinton, Bush Jr., and Obama) and also for changes in the global political environment (e.g., the fall of the Iron Curtain or the adoption of the Millennium Development Goals).<sup>3</sup>

Additionally, we consider one-year lagged macroeconomic variables in the selection model; real GDP per capita in logs, the growth rate of real GDP per capita, population in logs, trade openness (exports plus imports divided by GDP), the trade share with the US (exports to plus imports from the US divided by the country's total exports plus imports), the share of investment to GDP, economic and military aid per capita from the US (both in logs), and foreign direct investment per capita from the US (in logs). Vector  $x$  of the outcome model includes the same covariates just described for vector  $z$  plus year-fixed effects instead of US President-fixed effects.

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<sup>3</sup> The results based on our main specifications remain robust when replacing the US President-fixed effects with year-fixed effects. However, as part of our robustness checks, we reduce our sample to glean further insights. Due to the associated decrease in the degrees of freedom, some models do not converge when employing year-fixed effects in our treatment model.

In our empirical analysis, we employ three treatment instruments to identify the ATT. These variables are included in vector  $z$ , but not in vector  $x$ , because we believe that they do not directly affect the outcome variables of interest. First, we use the geographical distance in logs between the capital of each country included in our sample and Washington, D.C. as a treatment instrument. There are several reasons to believe that countries that are close to the US are *ceteris paribus* more likely to be targets of US economic sanctions. First, internal conflicts in a country that is close to the US may represent a greater threat to the US itself. These types of conflicts may also cause direct adverse consequences for the US, such as an impairment of economic relations (Martin et al. 2008), or the danger of contagion (Weidmann and Ward 2010). Moreover, human rights violations that cause safety-seeking refugee flows are more threatening to US interests when the country of origin is close to the United States (Nielsen 2013). Second, the closer a country is to the US, the greater the awareness of its political and social situation among the general public in the US, thus increasing the pressure on US politicians to intervene. Nielsen (2013), for example, shows that the likelihood of aid sanctions against repressive states increases with the level of media coverage. Peksen et al. (2014) find the same effect specifically for the imposition of US economic sanctions. Finally, sanctions may be considered more effective if the prospective target nation is close. Neuenkirch and Neumeier (2015) show that the magnitude of the adverse effect US economic sanctions have on the target state's GDP is inversely related to the target state's distance to the US. Inasmuch as the US takes the expected effectiveness of its sanction measures into account, there should be a negative association between the likelihood of implementing sanctions and the potential target country's distance to the US. A study that makes use of the same treatment instrument is Bell et al. (2016). They instrument the deployment of US troops with the distance to the US (in logs) and with a dummy that identifies US allies. Their results indicate that US troops reduce human rights violations in countries where they are deployed, as long as these countries are not strategically important to the US.

Our second treatment instrument is an indicator of genetic distance by Spolaore and Wacziarg (2009). Underlying this instrument is the same logic as for the geographic distance indicator. Giuliano et al. (2014) show that genetic distance proxies for geographical factors that, mostly in the Neolithic Period, shaped genetic differences across populations. Features of geography other than distance (such as ruggedness of

the terrain, mountain chains between countries or the presence of a common sea) are important barriers to exchange between countries and can be proxied by genetic distance. Thus, we expect in line with our arguments in the previous paragraph that countries with a higher genetic distance to the US are less likely to be targeted by US economic sanctions.

Using data taken from Bailey et al. (2015), our third treatment instrument measures the alignment of a country's votes in the UN General Assembly (UNGA) with US votes. To construct this measure, Bailey et al. (2015) propose a dynamic ordinal spatial model to estimate state ideal points from 1946 to 2012 on a single dimension. The absolute difference between each country's ideal point per year and the US's ideal point per year is then employed as an indicator of voting distance. Arguably, a country that tends to vote in line with the US (i.e., those countries where the values of the voting distance measure are close to zero) can expect a more favorable treatment, thus reducing the likelihood of being targeted by US sanctions. Dreher and Jensen (2013), for example, argue that the United States punish governments economically if they take opposing political positions in the UNGA. Nielsen (2013) finds that aid recipients that vote with donors in the UNGA are exempt from aid sanctions in response to human rights violations. The same holds in case of joint membership in military alliances.

Table A3 in the Appendix summarizes all variables as well as their definitions and sources. Table A4 provides summary statistics and detailed information on episodes of economic sanctions or conflicts.

## **4. Empirical Results**

### *4.1 Baseline Results*

The results for both the OLS regressions as well as the endogenous treatment models are shown in Tables 2a-2d. The OLS estimates are presented in the upper panel and the results based on our endogenous treatment models in the lower panel. In addition to the treatment effect estimates, Tables 2a-2d contain the coefficients of the treatment instruments based on the selection model described in Equation (4). Moreover, the estimates for  $\rho_1$  and  $\rho_0$ , that is, the coefficients of correlation between the treatment assignment errors and the outcome errors for the treatment and control group, respectively, are displayed in each table. In the context of OLS estimation, we estimate

four different versions of Equation (6) for each of the human rights indicators, yielding 16 regressions; (i) a pooled panel data model, (ii) a panel difference-in-difference approach, (iii) a panel data model including region-fixed effects, and (iv) a panel data model including country-fixed effects. In the context of the endogenous treatment model, we can only employ specifications (i)-(iii) and do not include country-fixed effects, as our treatment instruments show only little variation over time.

The findings based on OLS estimation suggest that US economic sanctions have an adverse effect on the target state's respect for basic human rights as well as political rights and civil liberties. This finding holds across all four specifications and is well in line with the evidence provided by Peksen (2009) and Wood (2008). In contrast, we do not find a significant association between economic sanctions and the level of economic rights or emancipatory rights. This finding stands in contrast to Peksen (2016b), who finds a negative effect of sanctions on economic freedom in terms of property rights protection and the use of contract-intensive money.

The results based on the endogenous treatment model, however, draw a different picture. These findings suggest that once the endogeneity of the imposition of sanctions is modelled, there is no significant relationship between US economic sanctions and a country's level of basic human rights or its level of political rights and civil liberties. Compared to the OLS regressions, the treatment effect estimates based on the endogenous treatment model are notably smaller across all specifications and, in fact, close to zero. This indicates that the OLS estimates are biased downward and that the insignificance of the sanction indicator in the endogenous treatment model is not due to inefficient estimation. Thus, our results suggest that the widely offered criticism that economic sanctions will inevitably lead to targeted regimes becoming even more repressive, is not backed by the data. Furthermore, we find a strong and significantly positive influence of US economic sanctions on the target state's respect for women's rights. The effect appears to be quite sizeable. When sanctions are in effect, our women's rights indicator increases by more than a third of a standard deviation. Finally, in support of the results from OLS estimation, the endogenous treatment model suggests that there is no significant association between the imposition of economic sanctions and the target state's level of economic rights.

Table 2a: US Sanctions and Economic Rights

<b>Ordinary Least Squares</b>	<b>Pooled</b>	<b>DID</b>	<b>Region-FE</b>	<b>Country-FE</b>
US Sanctions	0.011 [0.40]	0.006 [0.68]	0.010 [0.45]	0.005 [0.76]
<b>Endogenous Treatment</b>	<b>Pooled</b>	<b>DID</b>	<b>Region-FE</b>	
US Sanctions	-0.005 [0.86]	-0.008 [0.77]	-0.009 [0.74]	
Log(Geogr. Distance to US)	-0.436 [0.01]	-0.436 [0.01]	-0.433 [0.01]	
Log(Genetic Distance to US)	-0.388 [0.01]	-0.387 [0.01]	-0.395 [0.01]	
Log(Voting Distance to US)	-0.218 [0.33]	-0.219 [0.33]	-0.218 [0.33]	
$\rho_0$	0.06	0.06	0.07	
$\rho_1$	0.07	0.06	0.08	
$\chi^2(2) \mid H_0: \rho_0=\rho_1=0$	0.70 [0.71]	0.54 [0.76]	0.97 [0.62]	

*Notes:* Top panel shows selected OLS estimates of different versions of Equation (6). Bottom panel shows the corresponding estimates of an endogenous treatment-regression model. p-values are in brackets. Number of observations: 2,594. Full tables are available on request.

Table 2b: US Sanctions and Political Rights

<b>Ordinary Least Squares</b>	<b>Pooled</b>	<b>DID</b>	<b>Region-FE</b>	<b>Country-FE</b>
US Sanctions	-0.068 [0.00]	-0.061 [0.01]	-0.078 [0.00]	-0.122 [0.00]
<b>Endogenous Treatment</b>	<b>Pooled</b>	<b>DID</b>	<b>Region-FE</b>	
US Sanctions	-0.027 [0.47]	-0.021 [0.57]	-0.029 [0.44]	
Log(Geogr. Distance to US)	-0.470 [0.00]	-0.468 [0.00]	-0.470 [0.00]	
Log(Genetic Distance to US)	-0.381 [0.01]	-0.379 [0.01]	-0.391 [0.01]	
Log(Voting Distance to US)	-0.222 [0.32]	-0.222 [0.32]	-0.221 [0.32]	
$\rho_0$	-0.12	-0.11	-0.13	
$\rho_1$	-0.11	-0.10	-0.14	
$\chi^2(2) \mid H_0: \rho_0=\rho_1=0$	2.85 [0.24]	2.60 [0.27]	4.03 [0.13]	

*Notes:* See Table 2a.

Table 2c: US Sanctions and Basic Human Rights

<b>Ordinary Least Squares</b>	<b>Pooled</b>	<b>DID</b>	<b>Region-FE</b>	<b>Country-FE</b>
US Sanctions	-0.106 [0.00]	-0.079 [0.02]	-0.096 [0.00]	-0.111 [0.01]
<b>Endogenous Treatment</b>	<b>Pooled</b>	<b>DID</b>	<b>Region-FE</b>	
US Sanctions	0.007 [0.90]	0.026 [0.64]	0.002 [0.97]	
Log(Geogr. Distance to US)	-0.335 [0.04]	-0.338 [0.04]	-0.376 [0.02]	
Log(Genetic Distance to US)	-0.462 [0.00]	-0.454 [0.00]	-0.445 [0.00]	
Log(Voting Distance to US)	-0.310 [0.15]	-0.309 [0.16]	-0.296 [0.17]	
$\rho_0$	-0.17	-0.16	-0.15	
$\rho_1$	-0.31	-0.30	-0.25	
$\chi^2(2) \mid H_0: \rho_0=\rho_1=0$	12.10 [0.00]	10.99 [0.00]	8.32 [0.02]	

Notes: See Table 2a.

Table 2d: US Sanctions and Emancipatory Rights

<b>Ordinary Least Squares</b>	<b>Pooled</b>	<b>DID</b>	<b>Region-FE</b>	<b>Country-FE</b>
US Sanctions	-0.008 [0.82]	0.025 [0.50]	-0.009 [0.81]	-0.039 [0.36]
<b>Endogenous Treatment</b>	<b>Pooled</b>	<b>DID</b>	<b>Region-FE</b>	
US Sanctions	0.353 [0.00]	0.370 [0.00]	0.357 [0.00]	
Log(Geogr. Distance to US)	-0.413 [0.01]	-0.412 [0.01]	-0.454 [0.00]	
Log(Genetic Distance to US)	-0.314 [0.02]	-0.298 [0.03]	-0.321 [0.02]	
Log(Voting Distance to US)	-0.243 [0.26]	-0.252 [0.25]	-0.201 [0.37]	
$\rho_0$	-0.58	-0.57	-0.60	
$\rho_1$	-0.17	-0.16	-0.17	
$\chi^2(2) \mid H_0: \rho_0=\rho_1=0$	27.42 [0.00]	23.74 [0.00]	26.06 [0.00]	

Notes: See Table 2a.

Clearly, our results do not provide support for most of the hypotheses developed in Section 2 and frequently proposed in the literature. Although the OLS estimates indicate that basic human rights, as well as political rights and civil liberties suffer under

economic sanctions imposed by the US, the results from the endogenous treatment models lead us to reject hypotheses 2a and 3a. Given that after modelling the endogeneity of selection into treatment, we only find a positive effect of US economic sanctions on emancipatory rights, we can conclude that our data does not support the widespread concern about adverse human rights consequences of US economic sanctions.

A glance at the coefficient estimates for our treatment instruments reveals that geographical distance to Washington, D.C. and genetic distance to the US are indeed strongly related to the likelihood of being targeted by US economic sanctions. Our indicator measuring voting alignment, however, is statistically insignificant, implying that the voting behavior of a country in the UNGA is not related to the likelihood of being hit by US sanctions. In three out of our four models, the negative estimates for  $\rho_1$  and  $\rho_0$  indicate that, in general, unobservables that adversely affect a country's human rights situation tend to follow a similar pattern as unobservables that increase the likelihood of being targeted by US economic sanctions, both in the treatment group as well as in the control group. This finding further strengthens the evidence for the endogeneity of US economic sanctions: The set of control variables employed in a simple least squares analysis does not capture the differences between countries where sanctions are imposed and countries not subject to sanctions. An analysis of the effects of sanctions that ignores the endogeneity of US economic sanctions, thus, produces biased estimates. The only exception is the model in which the dependent variable measures economic rights. Here, both  $\rho_1$  and  $\rho_0$  are positive, yet of negligible size and not statistically different from zero.

#### *4.2 Extensions*

To glean additional insights, we differentiate between different types of US economic sanctions and estimate separate treatment effects. First, we evaluate the effect of low cost-sanctions versus high cost-sanctions. To this end, we omit all high cost-sanctions from our sample of country-year observations. That way, the coefficient estimate for our sanction indicator provides us with an estimate for the effect of low cost-economic sanctions. Then, we omit country-year observations with low cost-sanctions in place to obtain an estimate for the effect of high cost-sanctions. Using the same approach, we

evaluate the impact of: unilateral versus multilateral sanctions, sanctions imposed with the aim of improving the human rights situation versus those imposed for other reasons, sanctions targeted against democracies versus those targeted against non-democratic states, and sanctions that have been in place for 1 to 5 years versus 6 to 10 years versus 10 years or more. The results for both the OLS regressions as well as the endogenous treatment models are shown in Tables 3a-3d. The OLS estimates are presented in the left panel, the results based on our endogenous treatment model in the right panel. The top row in each Table reproduces the estimates from Tables 2a-2d.

In general, the results are well in line with those presented in the preceding section. Our findings based on OLS estimates suggest that the imposition of multilateral sanctions produces more severe adverse effects on political rights than unilateral sanctions, a finding well in line with the extant empirical evidence (Peksen and Drury 2010). In addition, the negative effect of sanctions seems to decline over time. This result, arguably, could reflect endogeneity; sanctions that are more effective tend to be lifted sooner. We get a somewhat different picture, however, when looking at the target country's basic human rights situation. Here, the adverse effect of sanctions appears to be stronger for unilateral sanctions. Moreover, the target government's respect for basic human rights decreases notably when sanctions are imposed with the aim of actually improving the human rights situation. Yet again, we believe that this finding is indicative of a flaw in the extant empirical literature. The inverse association between sanctions and the human rights situation may be driven by the fact that sanctions are imposed because of particular policies adopted by the incumbent regime that result in a deterioration of basic human rights.

The results based on the OLS regression do not hold in the context of our endogenous treatment model. Economic sanctions imposed by the US (irrespective of what sanction type is considered or how long they remain in effect) do not exert a significant causal influence on the target government's respect for basic human rights, political rights and civil liberties, or economic rights. High costs-sanctions are the only exception, as they lead to an improvement of basic human rights. Note that again, the lack of significance of our sanction indicators is not due to inefficient estimation. Rather, when taking the endogeneity of economic sanctions into account the coefficient estimates tend to noticeably decrease (in absolute terms) and come close to zero, indicating that the estimation bias based on the OLS regression is sizeable.





Table 3a: US Sanctions and Economic Rights: Extensions

	Ordinary Least Squares				Endogenous Treatment		
	Pooled	DID	Region-FE	Country-FE	Pooled	DID	Region-FE
Sanctions	0.011 [0.40]	0.006 [0.68]	0.010 [0.45]	0.005 [0.76]	-0.005 [0.86]	-0.008 [0.77]	-0.009 [0.74]
... Low Costs	0.018 [0.26]	0.013 [0.44]	0.018 [0.28]	0.007 [0.74]	-0.016 [0.60]	-0.020 [0.51]	-0.019 [0.54]
... High Costs	0.012 [0.55]	0.008 [0.70]	0.008 [0.68]	0.009 [0.74]	0.009 [0.81]	0.009 [0.82]	-0.003 [0.93]
... Unilateral	0.011 [0.48]	0.006 [0.71]	0.008 [0.60]	-0.013 [0.55]	-0.024 [0.45]	-0.026 [0.41]	-0.034 [0.29]
... Multilateral	0.011 [0.53]	0.006 [0.73]	0.013 [0.48]	0.019 [0.39]	-0.001 [0.99]	-0.004 [0.92]	-0.004 [0.90]
... Human Rights	0.002 [0.88]	-0.002 [0.91]	0.007 [0.70]	0.002 [0.94]	0.005 [0.88]	0.001 [0.98]	0.011 [0.74]
... Non-Human Rights	0.019 [0.26]	0.013 [0.44]	0.012 [0.47]	0.007 [0.76]	-0.006 [0.85]	-0.009 [0.78]	-0.022 [0.49]
... Against Democracies	0.039 [0.13]	0.034 [0.19]	0.038 [0.14]	0.038 [0.18]	0.016 [0.80]	0.013 [0.85]	0.020 [0.76]
... Against Non-Democracies	0.005 [0.71]	0.000 [0.99]	0.004 [0.80]	-0.007 [0.71]	-0.011 [0.67]	-0.015 [0.58]	-0.018 [0.49]
... 1 to 5 Years	0.005 [0.76]	0.001 [0.94]	0.004 [0.82]	0.007 [0.70]	-0.009 [0.83]	-0.013 [0.75]	-0.009 [0.82]
... 6 to 10 Years	-0.005 [0.82]	-0.010 [0.67]	-0.005 [0.83]	-0.019 [0.48]	-0.030 [0.48]	-0.034 [0.42]	-0.033 [0.43]
... 11 Years +	0.023 [0.22]	0.017 [0.38]	0.016 [0.40]	0.011 [0.71]	0.001 [0.99]	-0.004 [0.93]	-0.014 [0.75]

Notes: Left panel shows selected OLS estimates of different versions of Equation (6). Right panel shows the corresponding estimates of an endogenous treatment-regression model. p-values are in brackets. Full tables are available on request.

Table 3b: US Sanctions and Political Rights: Extensions

	Ordinary Least Squares				Endogenous Treatment		
	Pooled	DID	Region-FE	Country-FE	Pooled	DID	Region-FE
Sanctions	-0.068 [0.00]	-0.061 [0.01]	-0.078 [0.00]	-0.122 [0.00]	-0.027 [0.47]	-0.021 [0.57]	-0.029 [0.44]
... Low Costs	-0.057 [0.03]	-0.049 [0.08]	-0.062 [0.02]	-0.103 [0.00]	0.009 [0.84]	0.017 [0.70]	0.012 [0.79]
... High Costs	-0.051 [0.12]	-0.046 [0.17]	-0.067 [0.05]	-0.069 [0.10]	0.016 [0.79]	0.019 [0.75]	0.004 [0.94]
... Unilateral	-0.050 [0.06]	-0.041 [0.13]	-0.059 [0.03]	-0.102 [0.00]	0.007 [0.87]	0.013 [0.78]	0.010 [0.82]
... Multilateral	-0.094 [0.00]	-0.086 [0.00]	-0.100 [0.00]	-0.145 [0.00]	-0.059 [0.24]	-0.053 [0.30]	-0.062 [0.22]
... Human Rights	-0.036 [0.19]	-0.029 [0.30]	-0.052 [0.07]	-0.112 [0.00]	0.004 [0.93]	0.011 [0.82]	-0.016 [0.74]
... Non-Human Rights	-0.099 [0.00]	-0.090 [0.00]	-0.099 [0.00]	-0.141 [0.00]	-0.079 [0.11]	-0.073 [0.14]	-0.058 [0.25]
... Against Democracies	-0.101 [0.02]	-0.092 [0.03]	-0.122 [0.00]	-0.196 [0.00]	0.046 [0.63]	0.052 [0.59]	0.012 [0.90]
... Against Non-Democracies	-0.059 [0.01]	-0.052 [0.03]	-0.065 [0.01]	-0.091 [0.00]	-0.034 [0.38]	-0.028 [0.47]	-0.032 [0.41]
... 1 to 5 Years	-0.123 [0.00]	-0.115 [0.00]	-0.131 [0.00]	-0.173 [0.00]	-0.069 [0.24]	-0.062 [0.30]	-0.073 [0.21]
... 6 to 10 Years	0.006 [0.86]	0.015 [0.69]	-0.017 [0.64]	-0.115 [0.01]	0.022 [0.75]	0.029 [0.66]	0.004 [0.95]
... 11 Years +	-0.061 [0.05]	-0.054 [0.09]	-0.056 [0.08]	-0.002 [0.97]	-0.016 [0.76]	-0.010 [0.85]	-0.005 [0.92]

Notes: See Table 3a.

Table 3c: US Sanctions and Basic Human Rights: Extensions

	Ordinary Least Squares				Endogenous Treatment		
	Pooled	DID	Region-FE	Country-FE	Pooled	DID	Region-FE
Sanctions	-0.106 [0.00]	-0.079 [0.02]	-0.096 [0.00]	-0.111 [0.01]	0.007 [0.90]	0.026 [0.64]	0.002 [0.97]
... Low Costs	-0.138 [0.00]	-0.108 [0.01]	-0.125 [0.00]	-0.107 [0.05]	-0.100 [0.13]	-0.073 [0.28]	-0.091 [0.17]
... High Costs	0.007 [0.89]	0.025 [0.63]	0.034 [0.53]	-0.071 [0.28]	0.163 [0.04]	0.174 [0.03]	0.172 [0.03]
... Unilateral	-0.153 [0.00]	-0.126 [0.00]	-0.126 [0.00]	-0.134 [0.01]	-0.062 [0.35]	-0.043 [0.53]	-0.045 [0.50]
... Multilateral	-0.035 [0.44]	-0.010 [0.83]	-0.040 [0.39]	-0.091 [0.09]	0.062 [0.39]	0.080 [0.28]	0.041 [0.58]
... Human Rights	-0.153 [0.00]	-0.128 [0.00]	-0.139 [0.00]	-0.271 [0.00]	-0.059 [0.41]	-0.037 [0.61]	-0.037 [0.61]
... Non-Human Rights	-0.041 [0.35]	-0.013 [0.77]	-0.034 [0.44]	0.066 [0.24]	0.043 [0.54]	0.064 [0.36]	0.019 [0.79]
... Against Democracies	-0.108 [0.11]	-0.082 [0.23]	-0.066 [0.33]	-0.141 [0.04]	0.086 [0.55]	0.103 [0.47]	0.138 [0.33]
... Against Non-Democracies	-0.105 [0.00]	-0.079 [0.04]	-0.099 [0.01]	-0.113 [0.02]	-0.013 [0.82]	0.007 [0.91]	-0.023 [0.68]
... 1 to 5 Years	-0.048 [0.30]	-0.022 [0.65]	-0.041 [0.38]	-0.045 [0.36]	0.103 [0.21]	0.127 [0.13]	0.093 [0.26]
... 6 to 10 Years	-0.144 [0.02]	-0.119 [0.05]	-0.100 [0.09]	-0.180 [0.01]	-0.099 [0.32]	-0.077 [0.45]	-0.073 [0.47]
... 11 Years +	-0.129 [0.01]	-0.103 [0.04]	-0.133 [0.01]	-0.138 [0.06]	-0.098 [0.20]	-0.074 [0.34]	-0.079 [0.30]

Notes: See Table 3a.

Table 3d: US Sanctions and Emancipatory Rights: Extensions

	Ordinary Least Squares				Endogenous Treatment		
	Pooled	DID	Region-FE	Country-FE	Pooled	DID	Region-FE
Sanctions	-0.008 [0.82]	0.025 [0.50]	-0.009 [0.81]	-0.039 [0.36]	0.353 [0.00]	0.370 [0.00]	0.357 [0.00]
... Low Costs	0.008 [0.86]	0.045 [0.33]	0.032 [0.49]	0.006 [0.91]	0.295 [0.00]	0.321 [0.00]	0.354 [0.00]
... High Costs	-0.057 [0.31]	-0.032 [0.57]	-0.081 [0.17]	-0.101 [0.16]	0.371 [0.00]	0.379 [0.00]	0.338 [0.00]
... Unilateral	-0.024 [0.59]	0.009 [0.84]	-0.007 [0.88]	-0.028 [0.63]	0.353 [0.00]	0.369 [0.00]	0.399 [0.00]
... Multilateral	0.014 [0.78]	0.046 [0.36]	-0.007 [0.89]	-0.053 [0.37]	0.331 [0.00]	0.344 [0.00]	0.264 [0.06]
... Human Rights	0.016 [0.73]	0.048 [0.32]	0.000 [1.00]	-0.032 [0.57]	0.323 [0.00]	0.353 [0.00]	0.269 [0.01]
... Non-Human Rights	-0.025 [0.60]	0.010 [0.84]	-0.005 [0.92]	-0.034 [0.58]	0.325 [0.00]	0.343 [0.00]	0.395 [0.00]
... Against Democracies	-0.030 [0.68]	0.003 [0.97]	-0.024 [0.75]	-0.030 [0.69]	0.467 [0.00]	0.505 [0.00]	0.455 [0.00]
... Against Non-Democracies	-0.007 [0.85]	0.026 [0.53]	-0.008 [0.83]	-0.051 [0.31]	0.308 [0.00]	0.328 [0.00]	0.319 [0.00]
... 1 to 5 Years	0.012 [0.81]	0.045 [0.38]	0.006 [0.90]	-0.030 [0.57]	0.508 [0.00]	0.540 [0.00]	0.496 [0.00]
... 6 to 10 Years	0.026 [0.69]	0.061 [0.34]	0.013 [0.84]	-0.001 [0.99]	0.407 [0.00]	0.435 [0.00]	0.408 [0.00]
... 11 Years +	-0.058 [0.28]	-0.027 [0.62]	-0.038 [0.49]	-0.136 [0.09]	0.323 [0.00]	0.356 [0.00]	0.389 [0.00]

Notes: See Table 3a.

When we look at the effect of sanctions on the level of emancipatory rights, we find a stronger positive effect for sanctions targeted against democracies. This finding is quite intuitive as democratic governments are more accountable to the population and hence more likely to react to demands for more liberal women's rights. Finally, the positive impact of sanctions on emancipatory rights is somewhat larger during the first five years of imposition, during which the composition of the labor probably changes the most.

## **5. Conclusions**

We use endogenous treatment-regression models to estimate the causal average treatment effect of US economic sanctions on four types of human rights; basic human rights, political rights and civil liberties, emancipatory rights, and economic rights. We take the endogeneity of the imposition of US economic sanctions explicitly into account by using treatment instruments that are associated with the likelihood of becoming targeted by sanctions, but not directly with the outcome variables of interest. Moreover, we account for potential heterogeneity across sanctioned countries and non-sanctioned countries by allowing the parameters of our empirical model to differ across both groups.

In contrast to previous studies, which ignore the endogeneity of economic sanctions, we find no support for adverse effects of sanctions on economic rights, political and civil rights, or basic human rights. With respect to women's rights, our findings even indicate a positive relationship. Emancipatory rights are, on average, strengthened when a country faces sanctions by the US. Our findings seem to hold independent of the choice of model specification and for different types of economic sanctions. Most importantly, this study provides strong evidence that the endogeneity of treatment assignment must be modelled when the consequences of sanctions are studied empirically.

Economic sanctions do not lead to a deterioration of the human rights situation in the targeted country, as indicated by the vast majority of empirical evidence. However, economic sanctions are also not associated with an improvement in basic human rights and political rights. This conclusion also holds for sanctions that are explicitly imposed with the aim of improving the human rights situation in the target country, which, arguably, is a dispiriting result. Moreover, our estimated effect of sanctions is an average treatment effect and, although the results are robust for various subsamples, individual

countries might experience a substantial negative effect on human rights. Finally, we have acknowledged from the very beginning that human rights violations are not the only possible negative consequence of sanctions. Increasing poverty, reduced economic growth, and adverse health effects are dramatic consequences in themselves.

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## Appendix

Table A1: Empirical Studies on the Relationship between Economic Sanctions, and Human Rights

Author(s)	Subject and Data	Dependent variable(s)	Sanction indicator(s)	Method	Results
Carneiro and Apolinário (2016)	Effect of targeted UN economic sanctions on human rights (data covering UN sanction episodes against African countries over the period 1992-2008)	Political terror scale (data taken from Gibney et al. 2016)	Binary UN economic sanction indicator (data taken from Morgan et al. 2014), binary indicator for targeted UN economic sanctions (data taken from Biersteker et al. 2016)	Pooled ordered logistic regression	Targeted UN economic sanctions are associated with greater political repression, non-targeted sanctions are not significantly related to political repression
Drury and Li (2006)	Effect of US sanction threats on human rights situation in China (time-series data covering the period 1989-1995 at a daily frequency)	Indicators for political unrest, repression, and accommodation	Binary indicators for US sanction threats (Congressional speeches and presidential comments related to China's MFN status) and US threatening actions (passing of an anti-MFN bill in House or Senate)	Three-equation SUR model using 28-days moving sums	US rhetorical threats and threatening actions are associated with a decrease in the level of accommodations by the Chinese government, but are not significantly related to political unrest and repression

Table A1 (cont.)

Drury and Peksen (2014)	Effect of international economic sanctions on women's rights (panel data covering 146 countries over the period 1971-2005)	Women's political, economic, and social rights (all data taken from the Cingranelli and Richards 2010), female labor participation (data taken from the World Bank's World Development Indicators)	Binary economic sanction indicator, binary indicators for multilateral sanctions and sanctions with the aim of preventing human rights violations, continuous sanction cost indicator (data taken from Hufbauer et al. 2009)	Pooled logistic regression and ordered OLS regression	Economic sanctions are associated with less respect for women's economic and social rights, but only in low-income countries (per capita GDP below 1,500); no association between economic sanctions and women's political rights and female labor participation; economic sanctions with humanitarian goals are associated with an improvement of women's economic rights and female labor participation
Escribà-Folch (2012)	Effect of international sanctions on political repression in authoritarian regimes (panel data covering 90 countries over the period 1976-2001)	Political terror scale/state violations of physical integrity rights (data taken from Hafner-Burton and Tsutsui 2007)	Binary economic sanction indicator (data taken from Marinov's (2005) update of the Hufbauer et al. (2009) data)	Pooled logistic regression and ordered OLS regression	Economic sanctions are associated with increased political repression; the effect is larger in personalist regimes than in single-party and military regimes

Table A1 (cont.)

Peksen (2016a)	Effect of international economic sanctions on discriminatory practices against ethnic groups (panel data covering more than 900 ethnic groups over the period 1950-2003)	Binary indicators for economic discrimination and political discrimination against an ethnic group (data taken from Gurr 2000)	Binary economic sanction indicator, ordinal economic sanction indicator (0-3) accounting for the severity of sanctions, binary indicators for multilateral sanctions and sanctions with the aim of preventing human rights violations (data taken from Hufbauer et al. 2009)	Heckman-selection probit model that accounts for the fact that only ethnic groups with more than 100,000 people are included in the main dataset	Economic sanctions are associated with an increase in the level of economic and political discrimination against ethnic groups; the effect tends to increase with the severity of sanctions and is stronger for multilateral sanctions than for unilateral sanctions
Peksen (2016b)	Effect of international economic sanctions on private property and wealth (panel data covering countries over the period 1960-2005)	Contract intensive money (monetary aggregate M2 minus currency in circulation as a share of M2), country investment profile taken from the International Country Risk Guide (Knack and Keefer 1995)	Binary indicators for partial economic sanctions vs. extensive sanctions, high-cost sanctions vs. low-cost sanctions, US sanctions vs. multilateral sanctions (data taken from Hufbauer et al. 2009)	Panel fixed-effects vector decomposition regression with AR(1) disturbances	Economic sanctions are associated with a decrease in contract intensive money and the country investment profile indicator; the effects tend to be larger for high-cost sanctions and extensive sanctions

Table A1 (cont.)

Peksen (2009)	Effect of international economic sanctions on physical integrity rights (panel data covering 95 countries over the period 1981-2000)	Extrajudicial killings, disappearances, political imprisonment, torture (all data taken from Cingranelli and Richards 2010), political terror scale (data taken from Gibney et al. 2016)	Ordinal economic sanction indicator (0-2) accounting for the severity of sanctions, binary indicators for unilateral vs. multilateral economic sanctions, as well as sanctions with vs. without the aim of preventing human rights violations (data taken from Hufbauer et al. 2009)	Pooled ordered probit regression	Economic sanctions are associated with more human rights violations (i.e., an increase in each of the four human rights indicators); the effect tends to be stronger for multilateral sanctions and for sanctions that aim at preventing human rights violations
Peksen and Drury (2010)	Effect of international economic sanctions on the level of democracy (panel data covering 102 countries over the period 1972-2000)	Freedom House (2014) index of political rights and civil liberties	Binary economic sanction indicator, ordinal sanction indicator (0-2) accounting for the severity of sanctions, count variable indicating the duration of sanctions (data taken from Hufbauer et al. 2009 and from Morgan et al. 2014)	Panel fixed-effects vector decomposition regression	Economic sanctions are associated with a decrease in political rights and civil liberties; the effect is stronger for extensive sanctions than for limited sanctions and decreases with the number of years sanctions are in place
Pond (2015)	Effect of international economic sanctions on protectionism (panel data covering the period 1988-2012)	Average tariff rate (data taken from the World Bank's World Development Indicators)	Binary trade sanction indicator, number of trade sanctions in place in a given target country-year (data taken from Morgan et al. 2014)	Pooled OLS regression, FGLS autoregressive distributed lag model	Number of trade sanctions in place is associated with an increase in the average tariff rate



Table A1 (cont.)

Soest and Wahman (2015)	Effect of UN, US, and EU economic sanctions on the level of democracy (panel data covering 117 authoritarian countries over the period 1990-2010)	Democracy measure combining the Freedom House (2014) index for political and civil rights and polity2 by Marshall et al. (2016)	Separate binary indicators for economic sanctions with the aim of promoting democratization, peace, preventing human rights violations, fighting terrorism, and other sanctions (data taken from Hufbauer et al. 2009)	Pooled regression	OLS	Economic sanctions aiming at promoting democratization are associated with an increase in the level of democracy; other sanction types do not have a significant effect
Wood (2008)	Effect of UN and US economic sanctions on human rights (panel data covering 157 countries over the period 1976-2001)	Political terror scale (data taken from Gibney et al. 2016)	Ordinal indicators (0-3) for UN and US economic sanctions accounting for the severity of sanctions (data taken from Hufbauer et al. 2009)	Pooled ordered probit regression		UN and US economic sanctions are associated with an increase in political repression; the effect is stronger for UN sanctions than for US sanctions and increasing with the severity of sanctions

Table A2: List of Countries in Sample

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Albania (16/0), Algeria (21/0), Argentina (27/0), Australia (28/0), Austria (29/0), Bahrain (26/0), Bangladesh (29/0), Belgium (14/0), Benin (11/0), Bolivia (18/0), Botswana (26/0), Brazil (27/2), Bulgaria (21/0), Burundi (11/0), Cameroon (20/1), Canada (29/0), Central African Republic (6/3), Chad (11/0), Chile (16/8), China (14/12), Colombia (22/3), Congo (21/0), Costa Rica (29/0), Croatia (16/0), Cyprus (26/0), Democratic Republic Congo (14/0), Denmark (29/0), Dominican Republic (27/0), Ecuador (24/5), Egypt (29/0), El Salvador (20/6), Estonia (16/0), Fiji (10/6), Finland (29/0), France (29/0), Gabon (11/0), Germany (29/0), Ghana (25/0), Greece (29/0), Guatemala (11/16), Guinea-Bissau (8/2), Guyana (11/0), Haiti (5/6), Honduras (20/1), Hungary (26/0), India (24/3), Indonesia (20/9), Iran (0/24), Ireland (29/0), Israel (28/1), Italy (29/0), Jamaica (29/0), Japan (29/0), Jordan (24/5), Kenya (25/4), Kuwait (20/0), Latvia (16/0), Lithuania (16/0), Luxembourg (14/0), Madagascar (26/0), Malawi (27/2), Malaysia (28/0), Mali (29/0), Mauritius (26/0), Mexico (29/0), Morocco (29/0), Myanmar (3/23), Namibia (17/0), Nepal (11/0), Netherlands (29/0), New Zealand (29/0), Nicaragua (16/10), Niger (9/0), Nigeria (21/8), Norway (29/0), Oman (26/0), Pakistan (11/18), Panama (25/4), Papua New Guinea (26/0), Paraguay (20/1), Peru (24/5), Philippines (27/0), Poland (22/2), Portugal (29/0), Romania (18/3), Russia (16/0), Senegal (29/0), Sierra Leone (19/0), Singapore (29/0), Slovakia (16/0), Slovenia (16/0), South Africa (15/1), South Korea (21/0), Spain (29/0), Sri Lanka (29/0), Sweden (29/0), Switzerland (10/0), Syria (3/25), Thailand (27/2), Togo (11/0), Trinidad and Tobago (29/0), Tunisia (28/0), Turkey (29/0), Uganda (20/0), Ukraine (16/0), United Arab Emirates (11/0), United Kingdom (29/0), Uruguay (29/0), Venezuela (27/0), Zambia (26/3), Zimbabwe (11/11).

*Notes:* The first figure in parentheses indicates the number of non-sanctioned observations for a particular country; the second figure indicates the number of years with US sanctions against that country in place.

Table A3: Variable Definitions and Sources

**Basic Human Rights, Economic Rights, Emancipatory Rights, Political Rights.**

Principal component scores predicted after varimax rotation of a matrix with Kaiser normalized rows resulting from 19 rights indicators, standardized to mean of 0 and standard deviation of 1. *Source:* Gutmann and Voigt (2015).

**Log Real GDP/Capita.** Natural logarithm of real GDP per capita in 2005 US dollars. *Source:* United Nations.

**Real GDP/Capita Growth.** First difference of natural logarithm of real GDP per capita in 2005 US dollars. *Source:* United Nations.

**Log Population.** Natural logarithm of total population size. *Source:* United Nations.

**Openness.** Sum of exports and imports over GDP. *Source:* United Nations.

**Trade with the US.** Sum of exports to the US and imports from the US, expressed as percentage of GDP. *Source:* IMF.

**Investment Share.** Gross capital formation, expressed as percentage of GDP. *Source:* United Nations.

**Log Economic Aid/Capita.** Economic aid per capita from the US, log plus one transformation. *Source:* USAID.

**Log Military Aid/Capita.** Military aid per capita from the US, log plus one transformation. *Source:* USAID.

**Log FDI/Capita.** Foreign direct investment per capita from the US, log plus one transformation. *Source:* Bureau of Economic Analysis.

**Polity2.** Polity scale variable; ranges from strongly democratic (+10) to strongly autocratic (-10). *Source:* Marshall et al. (2016).

Table A3 (cont.)

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**Minor/Major Interstate Conflict.** Interstate armed conflict between two or more states; indicator variables for minor conflicts (between 25 and 999 battle-related deaths in a given year) and wars (at least 1,000 battle-related deaths in a given year). *Source:* Gleditsch et al. (2002).

**Minor/Major Internal Conflict.** Internal armed conflict between the government of a state and one or more internal opposition group(s) without intervention from other states; indicator variables for minor conflicts and wars. *Source:* Gleditsch et al. (2002).

**Minor/Major Internationalized Internal Conflict.** Internationalized internal armed conflict between the government of a state and one or more internal opposition group(s) with intervention from other states on one or both sides; indicator variables for minor conflicts and wars. *Source:* Gleditsch et al. (2002).

**US sanctions.** As defined in Table 1. *Source:* Wood (2008), Hufbauer et al. (2009), Neuenkirch and Neumeier (2015).

**Distance to US.** Distance of the target country's capital from Washington, DC in logs of 1,000 kilometers. *Source:* Gleditsch and Ward (2001).

**Genetic distance to US.** Indicator of genetic distance in logs. *Source:* Spolaore and Wacziarg (2009).

**Voting distance to US.** Distance of the target country's voting in the UN General Assembly (UNGA) to US votes in logs, based on a dynamic ordinal spatial. *Source:* Bailey et al. (2015).

Table A4: Descriptive Statistics

	Mean	Std. Dev.	Min	Max
Basic Human Rights	0.00	1.00	-2.43	1.57
Economic Rights	0.00	1.00	-3.05	1.94
Emancipatory Rights	0.00	1.00	-2.62	2.49
Political Rights	0.00	1.00	-2.52	1.30
Lag(Log Real GDP/Capita)	8.22	1.57	4.32	11.39
Lag(Real GDP/Capita Gr.)	0.02	0.05	-0.39	0.59
Lag(Log Population)	16.38	1.51	12.95	21.03
Lag(Openness)	0.75	0.49	0.00	4.44
Lag(Trade with the US)	0.09	0.11	0.00	0.80
Lag(Investment Share)	0.21	0.07	0.01	0.66
Lag(Log Econ. Aid/Capita)	1.10	1.24	0.00	6.81
Lag(Log Milit. Aid/Capita)	0.48	1.03	0.00	6.77
Lag(Log FDI/Capita)	3.95	2.73	0.00	13.26
Polity2	4.59	6.33	-10.00	10.00
Log(Geogr. Distance to US)	2.01	0.53	-0.31	2.79
Log(Genetic Distance to US)	2.01	0.58	1.15	3.04
Log(Voting Distance to US)	0.93	0.49	-3.46	1.70

  

	Freq.(X = 1)		Freq.(X = 1)
US Sanctions	235	Conflicts	479
... Low Costs to Target	129	... Minor Interstate	37
... High Costs to Target	76	... Major Interstate	10
... Unilateral	133	... Minor Internal	342
... Multilateral	102	... Major Internal	93
... Human Rights	113	... Minor Internat. Internal	20
... Non-Human Rights	122	... Major Internat. Internal	3
... Against Democracies	40		
... Against Non-Democracies	195		
... Duration: 1 to 5 Years	91		
... Duration: 6 to 10 Years	58		
... Duration: 11 Years +	86		

Notes: Number of observations: 2,594.

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