the review of income and wealth

Review of Income and Wealth
Series 59, Number 2, June 2013
DOI: 10.1111/roiw.12027

EXTRAORDINARY WEALTH, GLOBALIZATION, AND CORRUPTION

BY BENNO TORGLER*

Queensland University of Technology, EBS Business School, CREMA

AND

MARCO PIATTI

Queensland University of Technology

The billionaires of the world attract significant attention from the media and the public. Surprisingly, only a limited number of studies have explored empirically the determinants of extraordinary wealth. Using a large dataset we investigate whether globalization and corruption affect extreme wealth accumulation. We find evidence that an increase in globalization increases super-affluence. In addition, we also find that an increase in corruption leads to an increase in the creation of super fortune. This supports the argument that in kleptocracies large sums are transferred into the hands of a small group of individuals.

JEL Codes: D31, N30, P46

Keywords: corruption, extraordinary wealth, globalization, superstars

> "The nature and causes of the wealth of nations" have long been subjects of scientific interest. It is to be expected that a science shall begin with the things most accessible to the understanding, that is, the merely objective parts of its field. Wealth as undergoing processes of production exhibits more kinship with physical phenomena than wealth in process of distribution, that is, as undergoing assignment to the uses and purposes of individuals. But it is time that the causes of the welfare and "fortune" of individuals should receive a share of attention. In relation to these causes arise those problems of distribution which are now the subject of lively and growing interest. Questions relating to the causes of large fortunes are also of immediate practical as well as of scientific interest. (George P. Watkins, 1907, p. 1)

1. INTRODUCTION

The billionaires of the world attract significant attention from both the media and the public, with some billionaires generating celebrity stardom.[1] The popular

Note: For helpful comments and suggestions, thanks are due to Alison Macintyre, David Savage, and two anonymous referees.

*Correspondence to: Benno Torgler, The School of Economics and Finance, Queensland University of Technology, GPO Box 2434, Brisbane, QLD 4001, Australia (benno.torgler@qut.edu.au).

[1]William Gates III, has been the richest person on earth for more than a decade and is constantly in the media. A search for "Bill Gates" on Google generates 87 million hits. If we accept that Google hits are an indication of stardom, it is telling that he returns three times as many hits as if we search for "Robert De Niro" who is seen as one of the greatest actors of his time (see http://www.imdb.com).

Published by Blackwell Publishing, 9600 Garsington Road, Oxford OX4 2DQ, UK and 350 Main St, Malden, MA, 02148, USA.

press sells thousands of books proposing formulas for accumulating wealth,[2] capitalizing on individual positional concerns due to relative judgments. Neumayer (2004, p. 793) states that the "accumulation of great fortunes creates uneasiness, envy and concern in many people." Such concerns emerge as people compare themselves with their environment and care greatly about their relative position, which influences individual choices. Thus, it is not only the absolute level of an individual's situation (e.g., income), but also the relative position that is important. Frank (1999) notes that research provides "compelling evidence that concern about relative position is a deep-rooted and ineradicable element in human nature" (p. 145). Relative changes may also induce envy in many different environments. Friedman (1962) referred to the following example in the academic world: "The college professor whose colleague wins a sweepstake will envy him but is unlikely to bear him any malice or to feel unjustly treated. Let the colleague receive a trivial raise that makes his salary higher than the professor's own, and the professor is far more likely to feel aggrieved. After all, the goddess of chance, as of justice, is blind. The salary raise was deliberate judgment of relative merit" (p. 166; cited in McAdams, 1992, p. 103).

Surprisingly, only a limited number of studies have explored empirically the determinants of extraordinary wealth. It seems that Neumayer's (2004) study was the first one to explore the issue at a global level using cross-sectional analysis. The dependent variable (number of billionaires in each country) was derived from the Forbes list. The results show a positive and statistically significant correlation between GDP per capita and population size. Thus, it is easier to accumulate great wealth in richer and more populous countries. The study also shows that the protection of property rights is positively correlated with extraordinary wealth, but in the two reported estimations the coefficient was only statistically significant at the 10% level. Morck *et al*. (2000) find that economic growth depends on who owns the physical capital and not just on the stock of physical capital itself. They observe a correlation between lower rates of economic growth and entrenched family control of a nation's capital. On the other hand, the control of capital by entrepreneur billionaires is correlated with faster rates of economic growth. Other studies have taken a more local perspective. Goldman (1998) explores why Russian businessmen first appeared in the Forbes list during the 1990s, even as Russia's president Boris Yeltsin and its Prime Minister Sergei Kiriyenko were seeking a $20 billion IMF loan. Studies by John J. Siegfried and his co-authors discuss how, where, and why fortunes arose in different countries from different industries. They analyze development in Australia (Siegfried and Round, 1994), the U.S. (Blitz and Siegfried, 1992), the U.K. (Siegfried and Roberts, 1991), and New Zealand (Hazledine and Siegfried, 1997). Kennickell (2006) investigates wealth development in the U.S. Working with two lists (one of which is the Forbes data on the 400 wealthiest Americans), the author concludes that wealth experienced relatively strong growth at the very top of the distribution, as did the share of total household wealth held by the listed names in the Forbes' list. Similarly, Kopczuk

[2]For example, recent releases on Amazon carry titles such as "Think Like a Billionaire, Become a Billionaire," "Millionaire in 365 Days: The Daily Plan to Get There," "Be a Real Estate Millionaire: Secret Strategies to Lifetime Wealth Today," or simply "How To Become a Millionaire."

and Saez (2004) discover that the Forbes 400 richest list in the U.S. between 1982 and 2002 reveals a strong wealth gain for those wealthy individuals with concentration within the top 100 and in the years of the stock market bubble of the late 1990s. Atkinson (2006) observes from the 2006 Forbes list that wealth among the rich is highly concentrated. Of the 793 billionaires in the world, 42 own a quarter of the total wealth of this group (Gini coefficient: 0.46). He also reports major changes over time in France (concentration of estates in France 1902–94), Germany (wealth tax data covering the former German Reich 1924–35 and West Germany for the period 1953–95), the U.S. (estate data for the period 1916–2000), and the U.K. (concentration of wealth in 1949–60 using investment income data).

In this paper we use an international perspective to explore the relationship between globalization, corruption, and extraordinary wealth. We also work with the Forbes list of billionaires but use a panel of 8 years between 1996 and 2003. The results indicate that individuals in more globalized countries are better able to accumulate extraordinary wealth. In addition, we also find that there is a positive relationship between an increase in corruption and an increase in extraordinary wealth.

2. Methodological Approach

2.1. *Datasets and Hypotheses*

Using the Forbes list of billionaires (published annually in the *Forbes* magazine), as a dependent variable, we develop an unbalanced panel of eight years between 1996 and 2003. The advantage of such a list is that it provides information on people at the very top end of the wealth distribution. Standard sources of data such as surveys (population coverage) fail to capture the very wealthy (Davies and Shorrocks, 2000). *Forbes* magazine has compiled the list for many years, which allows exploration of a relatively large dataset. Moreover, Forbes combs through holdings of publicly traded companies, private investments, real estate, and art collections to establish a *direct* wealth estimate.[3] On the other hand, the use of sample surveys is subject to non-response and under-reporting, phenomena that might be particularly prevalent for the very rich (Davies and Shorrocks, 2000). To determine the affluence of a person, stock prices are calculated using market prices and exchange rates as of market closings on a particular day. The closing day varies from year to year but it is usually scheduled in the early half of February. Atkinson (2006) discusses disadvantages of such a list. A key issue is that validity depends on the extent to which wealth holdings are public knowledge. This information is likely to vary across countries, regions and over time. However, reporters from the *Forbes* magazine are in close contact with billionaires and the fact that they have been developing the list for many years may indicate that they have invested substantial efforts in obtaining adequate coverage. However, Atkinson (2006) also points out that assets may be more visible than debts and that many of

[3]Based on country of citizenship and not residency. For a description of the methodology, see http://www.forbes.com/2008/03/05/billionaire-methodology-acknowledgements-billionaires08-cx_lk_0305thanks.html

the assets are difficult to value. Similarly, Davies and Shorrocks (2000) stress that assets covered in the estimates are restricted to those that are more easily identified on public record. In addition, it may be that in some cases, family holdings are reported rather than individual holdings (Atkinson, 2006).

We posit that the international environment facing a country might be a key factor to understanding extreme wealth accumulation. A country's capacity to act globally by creating international networks guarantees the flow of information, goods, and capital, thereby increasing the possibility set for super-rich people and reducing restrictions on efficient action. More than 100 years ago, Watkins (1907) acknowledged the importance of globalization: "Formerly isolated and outlying communities and countries, from Ceylon to the edge of the one-time 'great American desert,' have been drawn into the swirl of exchange and suffer or prosper according to the level of prices determined in world markets . . . The opportunity of the business man in any line to profit by value-increase is multiplied by the increase in the breadth and in the number of exchanges. Recent economic evolution has thus greatly added to his power and importance" (pp. 62–63). Moreover: "Some large American fortunes were made by pioneers in the oriental and tropical trade. John Hancock's fortune was made in the West Indian trade, which was also the foundation of the fortune of Stephen Girard" (p. 93). Atkinson (2006, p. 12) looked at the Forbes list in 2006, pointing out that "those at the very top are largely self-made. Bill Gates has topped the list for twelve years, and others in the top 25 in 2006 include Paul Allen, Steven Ballmer, Michael Dell and Lawrence Ellison, with Sergey Brin and Larry Page of Google at numbers 26 and 27." Later he points out that "these forces of technological change and globalization may be expected to have left their mark on the distribution of self-made fortunes" (p. 25).

In line with Dreher (2006) we use Clark's (2000) definition of globalization as a process of establishing networks of connections among actors in different countries, mediated through a variety of flows including people, information and ideas, capital, and goods (p. 86). Dreher's (2006) dataset is based on 23 variables and provides an overall measure of globalization that covers several dimensions of globalization, namely economic, political, and social globalization (for a detailed description, see also Dreher *et al*., 2008).[4] The data we use is based on the KOF Index of Globalization 2006, satisfying Dreher and Gaston's (2008) emphasis on working with a globalization proxy that covers various aspects. Most studies focus on economic globalization despite having important social and political dimensions. They also refer to a sort of multiplier effect: "Since globalization encompasses several aspects that taken together have a greater effect than the sum of their constituent parts, it is logical to assess the effects together. Composite indices do exactly this since they provide a single statistic on which comparisons can be based, without the confounding effects of variation at lower levels of aggregation" (p. 518). More globalized environments are correlated with a higher degree of competitiveness and a lower level of protection against competitors from foreign countries, neither of which should hinder the creation of super fortune (Neumayer, 2004). We would therefore predict a positive correlation between an increase in globalization and an increase in extreme wealth accumulation.

[4]See also http://globalization.kof.ethz.ch/

Focusing on these elements is in line with studies that explore the relationship between globalization and inequality (e.g., Zhang and Zhang, 2003; Wade, 2004; Nissanke and Thorbecke, 2006; Dreher and Gaston, 2008). O'Rourke (2001) raises the criticism that "public debate on the issue can be frustratingly confused" (p. 1). Looking at within-country and between-country income distribution he notes that theoretical implications are theoretically ambiguous and therefore must be resolved empirically (see pp. 4–5). Wade (2004) states that income inequality comes together with (i) increased poverty, (ii) slower economic growth, (iii) higher unemployment, and (iv) higher crime. In general, Dreher and Gaston (2008) stress that "the proliferation of theories has yielded considerable uncertainty about what are the predicted effects of globalization on inequality in both developed and developing countries" (p. 531). They also point out the lack of empirical studies in that area, calling it an "empirical fog" (p. 531). Similarly, Zhang and Zhang (2003) indicate that the literature on the relationship between globalization and inequality has mainly focused on developed countries (in particular the U.S.). Dreher and Gaston's (2008) study works with the same globalization variable that we use, and emphasizes that the "importance of institutional factors highlights the need to have a sufficiently broad measure of globalization when investigating its effects on income inequality" (p. 517). Their work shows that globalization has exacerbated inequality, with strong effects for OECD countries and no robust effect for less-developed countries. Zhang and Zhang (2003) investigate the effect of globalization on regional inequality in China, finding that globalization through foreign direct investment (FDI) has exacerbated the income disparity between regional and coastal China during 1986–98.

Our analysis of the super-rich might bear a closer relation to inequality studies that deal with social justice. Relying solely on the Gini coefficient has been criticized as the coefficient can decrease even though the ratio of incomes at the extremes worsens: "What is received by the most and least economically privileged parts of a population can be a much better indicator, even though it does not use all of the data available on distribution among the population" (Sutcliffe, 2004, p. 26).

In addition, we explore the correlation between corruption and super richness. In a state where corruption is rampant, the allocation of resources is distributed in a discretionary and unequal manner. Long-term relationships with a few firms might be established to exploit a nation's wealth at the expense of ordinary people (Rose-Ackerman, 1999). Thus, in kleptocracies wealth is often transferred into the hands of a small group of individuals. For example, Levin and Satarov (2000) analyze corruption and institutions in Russia, and raise the criticism that corruption is an integral part of Russia's economy. They state that the degree of corruption, in monetary terms, exceeds the total expenditures on science, education, health care, culture, and art that are distributed by the state regime. In some industries, criminal groups spend up to 50 percent of their revenues to bribe officials (p. 115). Goldman (1998) stresses that Russia is a unique case where various oligarchs accumulated their wealth in a short time. A large proportion of the biggest banks are linked to organized crime. For example, former deputy minister of the petroleum industry Vagit Alekperov ended up owning much of the industry he had previously supervised. Thus, Goldman (1998) concludes that the

Russian case was based on expropriation of what was formerly state property and not due to the creation of new productive entities. Wade (2004) points out that in the presence of higher income inequality, wealthier people in poorer countries are more likely to compare themselves to richer people in richer countries. This comparison may incline the elites to behave in a more corrupt manner, exploiting their own citizens to achieve a similar living standard as wealthier people in western countries. Gupta *et al*. (2002) find empirical support for the hypothesis that corruption increases inequality. We would therefore predict that a higher level of corruption may lead to more extraordinary wealth accumulation.

To test this hypothesis, we utilize two measures of perceived corruption. First, we use the International Country Risk Guide (ICRG) that provides yearly data (see Knack, 2001) on corruption. The corruption variable assesses the corruption within the political system as rated by experts. Lower scores indicate that "high government officials are likely to demand special payments" and that "illegal payments are generally expected throughout lower levels of government" in the form of "bribes connected with import and export licenses, exchange controls, tax assessment, police protection, or loans." As a robustness check we will also use the control of corruption variable developed by Kaufmann *et al*. (2003) (KKM). The proxy measure is driven by the traditional notion of corruption, defined as "the exercise of public power for private gain" covering a variety of aspects ranging from the frequency of "additional payments to get things done" to the effects on the business environment (p. 8). Experts, households, and firms are asked to rate corruption by allocating values that lie between –2.5 and 2.5, with higher scores corresponding to a lower level of corruption. However, one should note that the KKM is a poll of polls.

Tanzi (2002) notes that most of the corruption variables used in the literature measure "perceptions and not objective and quantitative measures of actual corruption" (p. 39). However, Tanzi (2002) also emphasizes: "One good feature is that the various indexes available are highly correlated among themselves" (p. 39). This has been successfully demonstrated by Treisman (2000), who posed an important question: "Why should one take seriously data that are based on perceptions rather than some directly observable measure of corruption?" (p. 410). He answers the question with two reasons. One is the high correlation mentioned beforehand, although he notes that such a high correlation "might indicate not a common perception of reality but a widely shared bias. This can never be completely ruled out. But if the ratings reflect bias, it is a bias that is remarkably widely shared" (pp. 411–12). As a second reason he points that the indexes predict various aspects of countries' economic performance (e.g., investment and growth, foreign investment) and therefore the "perception of corruption may have as serious consequences for economic development as corruption itself" (p. 412). It affects investors' decisions and the allocation of foreign aid (see also Treisman, 2007). Meanwhile, there are several recent papers that examine the relationship between perceived and experienced corruption (e.g., Mocan, 2008; Weber Abramo, 2008; Razafindrakoto and Roubaud, 2010). One problem of perceived corruption indices might be that countries which perform well in variables such as economic growth tend to be given better scores on indicators related to corruption compared to countries that perform poorly. Such a "poor is bad" effect has received

considerable attention in the literature on corruption indices (Søreide, 2006 p. 7). Treisman (2007, p. 215) also points out that cross-national differences in perceived levels of corruption could be driven by differences in cynicism, the degree of public identification with the government, the perceived injustice of social and economic relations, the frequency of media reports on corruption, government anticorruption campaigns, and politically motivated accusations by opposition politicians.

Moreover, indexes are often not free of problems. Bjørnskov (2006), for example, demonstrates empirically that social capital cannot be treated as a unitary concept. The three components of social capital, namely trust, norms, and networks, are three distinct phenomena and influence factors such as governance quality or life satisfaction differently.

A key question is the extent to which subjective indexes are correlated with experience-based proxies. Razafindrakoto and Roubaud (2010) conduct surveys among experts and non-experts to compare the experts' perceptions of perceived corruption with actual corruption experienced by people in African countries. Their results indicate a small link between perceived corruption and actual corruption, showing that experts overestimate the level of corruption reported.[5] However, Treisman (2007) criticizes the "noise" of experienced-based measures, as individuals might not frequently experience the extent of corruption happening at the state's highest levels. Experts may know more about the extent of such corruption. In addition, survey respondents may not honestly answer questions regarding their own experiences with corruption. Reinikka and Svensson (2006) argue in favor of using expenditure tracking and service delivery surveys, stressing that "with appropriate survey methods and interview techniques, it is possible to collect quantitative data on corruption at the micro-level" (p. 367).

In line with the study by Neumayer (2004), we control for the economic development (GDP per capita) and the population size of a country. The idea is that a larger population size allows for a larger number of super rich people compared to a smaller population size. In addition, a higher GDP per capita is related to better infrastructure (physical and organizational) and better access to higher social and human capital. Moreover, it has been argued that it might be easier to accumulate greater wealth in an economy where people are wealthier (Neumayer, 2004). We therefore collect the GDP per capita and the population size of a country from the *World Development Indicators*.

There is a growing literature that describes and explores the "resource curse," referring to the tendency for nations to fail to transform such an advantage into economic growth. Furthermore, the resource curse can induce violent conflicts, greater inequality and higher poverty, less democracy and institutional quality, and more corruption (see, e.g., Barro, 1999; Ross, 2001; Nissanke and Thorbecke, 2006; Shaxson, 2007; Bhattacharyya and Hodler, 2010; Lujala, 2010; Morrison, 2010; Tsui, 2011). An important aspect relevant to our study is the manner in which natural resources seem to reinforce patronage politics or nepotism, and the incentive to hoard as much of the endowment as possible for private benefits (Shaxson, 2007; Lujala, 2010). We will focus on oil, a resource that is usually not

[5]However, they also state that the results are unlikely to invalidate the relevance of these corruption indices.

evenly distributed among the population within a country (Morrison, 2010). Vicente (2010) explores the relationship in natural experimental setting where oil was discovered in the period 1997–99 in West Africa. In comparison with a control group, they find support for an increase in corruption in sectors of primary importance to the political elite of the country. Dietz *et al*. (2007) find empirical evidence that corruption is linked to lower genuine saving rates in resource rich countries. Fjelde (2009) argues that the conversion of public funds into private payoffs can prolong poverty in oil-wealthy states. It allows rulers to target supporters (rent-based clientelism). Bhattacharyya and Hodler (2010) find that for countries with poor democratic intuitions, natural resources such as oil increase corruption, while for countries with strong democratic institutions it reduces corruption. Gupta *et al*. (2002) find that abundant natural resources are linked with high income inequality. We therefore control for the relevance of oil by including a dummy variable for oil production.

2.2. *Specification of the Test Equation*

To test our two hypotheses, we propose the following baseline equation:

$$(1) \qquad NBI_{it} = \alpha + \beta_1 CTRL_{it} + \beta_2 GLOB_{it} + \beta_3 CORR_{it} + TD_t + REGION_i + \varepsilon_{it}$$

where i indexes the countries in the sample, and NBI_{it} denotes countries' billionaires over the periods 1996 to 2003. $GLOB_{it}$ is our index for globalization and $CORR_{it}$ the level of corruption (higher values, lower corruption). The regressions also contain two key control variables, $CTRL_{it}$, namely GDP per capita, the population size, and a dummy for oil production. To control for time as well as regional invariant factors, we include fixed time, TD_t, and fixed regional effects, $REGION_i$.[6] ε_{it} denotes the error term.[7] We use several models, namely OLS regressions[8] with time and regional fixed effects, left censored tobit models due to

[6]We differentiate between Europe, Latin America, North America, North Africa, Sub Saharan Africa, the Pacific, Asia, the Caribbean, and Australia. As an alternative we could have introduced country fixed effects. However, the inclusion of country dummies has raised substantial criticism, particularly from political scientists. The intensive debate on whether to include or exclude country fixed effects is nicely discussed in Plümper *et al*. (2005). For example, one criticism is that country dummies eliminate too much cross-sectional variance. They refer to Kittel and Obinger's paper that claims country fixed effects throw "out the baby with the bath water, because one of the main interests of political scientists in this kind of quantitative analysis is whether institutional variables capture cross-sectional variation to an extent which makes the inclusion of country dummies unnecessary" (Plümper *et al*., 2005, p. 331). They argue against the view that dummy coefficients capture the historical fabric of a country, describing it as highly problematic because dummies "estimate the effect of the time invariant variables together with some effects of the differences in levels of the time varying variable plus the mean effect of omitted variables" (pp. 331–32). However, since failing to use country fixed effects can lead to biased estimates and wrong inferences (see also Plümper *et al*., 2005), we decided to check whether our key institutional variable corruption is affected by using country fixed effects instead of regional fixed effects. Looking at those estimations with the largest number of observations in Table 1 (see specifications 2 and 4), we note that the coefficient for corruption remains statistically significant at the 1% level, and reports similar quantitative effects (slightly smaller). These results are available on request.

[7]For an overview of the countries and summary statistics, see Appendix, Tables A1 and A2.

[8]The relative role played by globalization vis-à-vis corruption is investigated by estimating *beta* or *standardized* regression coefficients in the OLS regression.

a large amount of zeros in the dataset, and zero inflated negative binomial models (ZINB) since our dependent variable is a count variable. We find comparable results when using a probit model where 1 measures whether a country has at least one billionaire, and discuss some of the results without presenting the tables of these estimations.[9]

3. Empirical Results

Table 1 and 2 present the first results. The first specification in both tables explores the impact of *GLOB* on *NBI*, with the coefficient *GLOB* always statistically significant at the 1% level. An increase of the globalization index by one unit corresponds with an increase in the number of billionaires by more than three people. The probit estimation also indicates that an increase in the globalization index by one unit is correlated with an increase in the number of billionaires by 37 percent. Thus, the effect is not at all negligible. Moreover, these simple specifications explain almost 40 percent of the variance in *NBI*.

In the next two specifications we add *CORR* together with two control variables. First, we use the ICRG dataset to measure the lack of corruption (see [2] and [9]). The negative coefficients indicate that a decrease in corruption (an increase in institutional quality) leads to a decrease in extraordinary wealth and the coefficients are statistically significant at the 1% level in both regressions. Specification [2] shows that on average, a one unit decrease in *CORR* reduces the number of billionaires by 1.2. The probit model indicates that such an increase reduces the probability of generating a billionaire by 7 percent. The standardized coefficients show that globalization has a stronger influence on achieving extraordinary wealth than corruption.

The aim of the next two specifications ([3] and [10]) is to check the robustness of the relationship between *CORR* and *NBI*. We therefore use an alternative proxy for *CORR*, namely the KKM "control of corruption" variable. It should be noted that higher values are again related to a lower level of corruption. However, the number of observations decreases as we move from eight to four years of country data. The results indicate that the previously observed findings remain robust. Both *GLOB* and *CORR* are statistically significant, and we actually observe larger quantitative effects for CORR (although GLOB has still a larger impact on NBI).

The purpose of the next group of specifications ([4, 5] and [11, 12]) is to explore the impact of a country's oil supplier status on the number of billionaires. The OLS specifications are the only ones in which the *OIL PRODUCTION* dummy is not statistically significant. In addition, the (non-reported) probit models return a statistically significant coefficient at the 1% level. The marginal effects indicate that being a country that supplies oil increases the probability of generating a billionaire by 27 and 22 percent, respectively. The quantitative effects of globalization and corruption do not change substantially after controlling for oil production.

In the last two specifications of Tables 1 and 2 ([6,7] and [13,14]), we exclude transition countries from our analysis.[10] Institutional and economic conditions

[9]Tables are available upon request.
[10]For a list of transition countries, see Table A5.

TABLE 1
DETERMINANTS OF EXTREME WEALTH (NBI)

	OLS						
Explanatory Variables	[1]	[2]	[3]	[4]	[5]	[6]	[7]
GLOB (globalization index)	3.465***	2.640***	3.074***	2.653***	3.170***	2.463***	3.083***
	(8.54)	(6.39)	(4.00)	(6.26)	(3.77)	(4.70)	(3.03)
	0.221	*0.159*	*0.211*	*0.159*	*0.218*	*0.147*	*0.210*
CORR (lack of corruption) ICRG		−1.180***		−1.194***		−1.337***	
		(−3.15)		(−3.06)		(−3.01)	
		−0.092		*−0.094*		*−0.100*	
CORR (control of corruption) KKM			−1.994**		−2.144*		−2.353**
			(−2.06)		(1.96)		(−2.05)
			−0.149		*−0.160*		*−0.172*
CTRL: log (GDP per capita)		1.354***	1.722***	1.361***	1.797***	1.761***	2.096***
		(4.88)	(3.14)	(4.82)	(3.00)	(4.89)	(3.20)
		0.133	*0.197*	*0.134*	*0.205*	*0.172*	*0.237*
CTRL: population size		1.07e-08***	1.03e-08**	1.08e-08***	1.07e-08**	2.79e-08***	2.67e-08**
		(3.00)	(2.21)	(2.95)	(2.17)	(3.15)	(2.28)
		0.102	*0.108*	*0.103*	*0.111*	*0.177*	*0.185*
CTRL: oil production				−0.230	−0.644	−0.787	−1.209
				(−0.56)	(−0.94)	(−1.40)	(−1.36)
				−0.006	*−0.021*	*−0.021*	*−0.038*
Regional fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Transition countries included	Yes	Yes	Yes	Yes	Yes	No	No
R^2	0.384	0.397	0.384	0.397	0.404	0.413	0.420
Prob > F	0.000	0.000	0.000	0.000	0.000	0.000	0.000
No. of observations	976	875	473	875	473	767	413

Notes: Robust standard errors, t-statistics in parentheses, and beta in italics.
*, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.
CORR: higher values = lower level of corruption.

TABLE 2

DETERMINANTS OF EXTREME WEALTH (NBI)

	RE Tobit (left censored)						
Explanatory Variables	[8]	[9]	[10]	[11]	[12]	[13]	[14]
GLOB (globalization index)	19.352***	8.038***	10.163***	8.426***	9.935***	4.266	6.624*
	(10.85)	(3.05)	(2.92)	(3.16)	(2.81)	(1.55)	(1.82)
CORR (lack of corruption) ICRG		–3.379***		–2.949***		–3.840***	
		(–3.15)		(–2.71)		(–3.27)	
CORR (control of corruption) KKM			–7.515***		–6.298**		–7.567**
			(–2.68)		(–2.18)		(–2.50)
CTRL: log (GDP per capita)		9.805***	11.692***	9.305***	10.831***	10.599***	12.037***
		(5.58)	(4.65)	(5.24)	(4.24)	(5.76)	(4.68)
CTRL: population size		3.74e-08***	3.87e-08***	3.31e-08***	3.41e-08***	6.49e-08***	6.43e-08***
		(6.12)	(4.85)	(5.36)	(4.22)	(7.44)	(5.66)
CTRL: oil production				15.030***	13.014***	14.210***	12.246***
				(4.59)	(3.17)	(4.39)	(3.02)
Regional fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Transition countries included	Yes	Yes	Yes	Yes	Yes	No	No
Prob > chi^2	0.000	0.000	0.000	0.000	0.000	0.000	0.000
No. of observations	976	875	473	875	473	767	413

Notes: t-statistics in parentheses.
*, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.
CORR: higher values = lower level of corruption.

after the collapse of communism and the reform processes that caused many transition countries to experience disorientation and an institutional vacuum (Gërxhani, 2002). This process may have facilitated the accumulation of extraordinary wealth by a small group of individuals. Leiken (1996–97) stresses that with "obsolete laws, a state incapable of enforcing them, and a climate of moral and social confusion, criminal organizations bred under the old regime have emerged as power brokers and patrons" (p. 62). He also reports that once the Soviet power began to crumble, leading party members set up dummy corporations abroad to transfer funds out of the country. Kaufmann (1997) points out that during the first half of the 1990s, some former Soviet Union countries experienced reform problems, whereby incomplete and poorly designed and implemented reforms generated opportunities for discretionary decisions by the government officials. Such opportunities for insider deals, and transforming public to private monopolies controlled by few shareholders, allowed the élite to accumulate financial resources. Thus, we exclude transition countries to see whether the results were driven by such conditions. Our findings remain relatively robust after excluding transition countries. It is only in the tobit estimations (reported in Table 2) that the level of statistical significance has dropped for GLOB.

We also check whether there is a non-linear relationship between CORR and our dependent variable NBI. The results are mixed depending on the corruption variable used. Working with the KKM data clearly shows that there is linear relationship between CORR and NBI.

Next, we conduct a robustness test using a zero inflated negative binomial model due to the fact that the number of billionaires is a count variable. The results are presented in Table 3 using the ICRG corruption variable and in Table A3 using KKM corruption data. First we include all the countries (see specification [15]), before excluding transition countries in specification [16]. From the results, the U.S.[11] and Russia could be seen as outliers. Petras (2008) states that among "the newest, youngest and fastest-growing group of billionaires, the Russian oligarchy stands out for its most rapacious beginning" (p. 319). The privatizations overseen by Yeltsin allowed oligarchs to rise to the top: "the future billionaires stripped the Russian state of over a trillion dollars worth of factories, mines, metals, transport, oil, gas, iron, coal and other formerly state-owned resources" (p. 320). He criticizes the development of this situation: "Without exception, the transfers of property were achieved through gangster tactics—assassinations, massive theft and seizure of state resources, illicit stock manipulation and buyouts" (p. 320).

Thus, we exclude both countries in specification [17], only the U.S. in [18], and only Russia in [19]. As can be seen, CORR as well as GLOB remain statistically significant throughout all five estimations. GLOB also remains robust when we apply the KKM corruption proxy, while corruption loses its statistical significance in the ZINB model (see Appendix, Table A3).

As a further robustness check we also conducted estimations using a time trend instead of time dummies. The time trend is mostly not statistically significant. This result can also be identified by looking at Table A4 in which we report

[11]The U.S. has the largest amount of billionaires (see Table A4 in the Appendix).

TABLE 3

DETERMINANTS OF EXTREME WEALTH (NBI)

	Zero Inflated Negative Binomial (ZINB)				
Explanatory Variables	[15]	[16]	[17]	[18]	[19]
GLOB (globalization index)	0.841***	0.535***	0.769***	0.845***	0.766*
	(4.33)	(2.85)	(3.87)	(4.28)	(1.90)
CORR (lack of corruption) ICRG	–0.259***	–0.210**	–0.157*	–0.264***	–0.161*
	(–3.14)	(–2.52)	(–1.82)	(–3.13)	(–1.90)
CTRL: log (GDP per capita)	0.743***	0.742***	0.829***	0.745***	0.835***
	(6.12)	(6.30)	(6.45)	(5.98)	(6.52)
CTRL: population size	6.16e-09***	6.42e-09***	4.94e-09***	6.12e-09***	5.37e-09***
	(4.54)	(5.35)	(3.94)	(3.80)	(4.56)
CTRL: oil production	1.003***	0.962***	1.095***	1.001***	1.072***
	(4.79)	(5.03)	(5.12)	(4.68)	(5.10)
Regional fixed effects	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes
Transition countries included	Yes	No	Yes	Yes	No
U.S. excluded	No	No	Yes	Yes	No
RUS excluded	No	No	Yes	No	Yes
Prob > chi^2	0.000	0.000	0.000	0.000	0.000
No. of observations	976	767	859	867	867

Notes: z-statistics in parentheses.
*, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.
CORR: higher values = lower level of corruption.

the total number of billionaires throughout time.[12] The joint role played by the time dummies can also be investigated using a Wald test for coefficient restrictions to test for *joint* significance. The test shows that in most of the cases the null hypothesis is rejected, meaning that time does not play a significant role in determining NBI.

In addition, Tables 4 and 5 report our checks on whether the previous findings hold when an index of institutional quality using the same two datasets (ICRG and KKM) is included.[13] One should note that there is a high correlation between our two corruption and the two institutional indexes (r = 0.68 for ICRG and r = 0.92 for KKM). Adding them simultaneously in the specification may lead to a general loss in the precision of the estimates. Nevertheless, both corruption proxies are statistically significant in all specifications. The coefficient for institutional quality is negative and statistically significant for the ICRG dataset. In sum, we can conclude that our two hypotheses cannot be rejected and that corruption has a stronger impact on NBI than the two institutional indexes. As a further robustness check we also run regressions with standard errors adjustments where we cluster at the country level. The findings lead to the same conclusions.

The results on the control variables indicated (in line with our predictions) that both the population size and the GDP per capita are positively correlated with *NBI*. We also explore how government interventions or economic freedom affect super wealth by deriving data from the *Economic Freedom of the World* database from 2000 to 2003 (Gwartney *et al*., 2006). We use the "size of government" index that covers: general government consumption spending as a percentage of total consumption, transfers and subsidies as a percentage of GDP, government enterprises and investments as a share of total investment, and top marginal tax rate. These components indicate the extent to which countries rely on the political process to allocate resources and goods and services. Such interventions may prevent the generation of super wealth. The results (not reported) indicate a negative correlation between this index and NBI: thus, an increase in economic freedom is positively correlated with the accumulation of extreme wealth. However, the coefficient is hardly statistically significant. Neumayer (2004) finds a similar result when working with the U.S. Heritage Foundation's Index of Economic Freedom. Moreover, the picture does not change when we focus on alternative proxies such as regulatory restraints that limit the freedom of exchange in credit, labor, and product markets or the legal structure and security of property rights.

4. Concluding Remarks

This paper has studied the effect of globalization and corruption on the generation of extraordinary wealth. Although the media and the popular press

[12]Only in the ZINB model do we observe a statistically significant negative relationship between time and NBI.

[13]The ICRG index consists of an average of the variables "bureaucratic quality," "rule of law," "democratic accountability," "government stability," "internal conflict," and "military in politics." The KKM index is an average of "political stability," "government effectiveness," "regulatory quality," and "voice and accountability."

TABLE 4

DETERMINANTS OF EXTREME WEALTH (NBI) WITH CORRUPTION INDEXES INCLUDED

	OLS				RE Tobit (left censored)			
Explanatory Variables	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]
GLOB (globalization index)	2.640***	3.170***	2.497***	3.078***	8.460***	9.977***	4.397	6.640*
	(6.23)	(3.17)	(4.71)	(3.00)	(3.17)	(2.82)	(1.60)	(1.82)
	0.159	*0.218*	*0.149*	*0.209*				
CORR (lack of corruption) ICRG	−1.055***		−1.141***		−2.049*		−2.915**	
	(−2.74)		(−2.71)		(−1.70)		(−2.26)	
	−0.083		*−0.085*					
INSTIT ICRG Index	−0.091*		−0.125**		−0.605*		−0.607*	
	(−1.73)		(−2.08)		(−1.72)		(−1.71)	
	−0.039		*−0.051*					
CORR (control of corruption), KKM		−2.501**		−2.527**		−10.084**		−10.733**
		(−2.26)		(−2.32)		(−2.30)		(−2.40)
		−0.186		*−0.185*				
INSTIT KKM Index		0.129		0.061		1.137		1.199
		(0.68)		(0.28)		(1.15)		(0.97)
		0.040		*0.018*				
CTRL: log (GDP per capita)	1.564***	1.708***	*2.052***	*2.054***	10.468***	10.131***	11.848***	11.353***
	(4.81)	(2.73)	(4.73)	(2.89)	(5.49)	(3.88)	(5.95)	(4.28)
	0.154	*0.195*	*0.200*	*0.232*				
CTRL: population size	1.11e-08***	1.06e-08**	2.87e-08***	2.66e-08**	3.54e-08***	3.36e-08***	6.82e-08***	6.25e-08***
	(2.97)	(2.14)	(3.19)	(2.25)	(5.59)	(4.15)	(7.62)	(5.45)
	0.107	*0.111*	*0.182*	*0.184*				
CTRL: oil production	−0.400	−0.561	−1.056*	−1.169	13.760***	14.267***	12.842***	13.380***
	(−0.89)	(−0.77)	(−1.68)	(−1.22)	(4.11)	(3.35)	(3.86)	(3.16)
	−0.011	*−0.019*	*−0.029*	*−0.037*				
Regional fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Transition country included	Yes	Yes	No	No	Yes	Yes	No	No
R^2	0.397	0.404	0.414	0.420				
Prob > F/ Prob > chi^2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
No. of observations	875	473	767	413	875	473	767	413

Notes: Robust standard errors (OLS), t-statistics, or z-statistics in parentheses, beta in italics.
*, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.
CORR: higher values = lower level of corruption.

TABLE 5
DETERMINANTS OF EXTREME WEALTH (NBI) WITH CORRUPTION INDEXES INCLUDED

	Zero Inflated Negative Binomial (ZINB)			
Explanatory Variables	[28]	[29]	[30]	[31]
GLOB (globalization index)	0.835***	1.122***	0.485***	0.680**
	(4.30)	(3.53)	(2.56)	(2.22)
CORR (lack of corruption) ICRG	–0.224**		–0.151*	
	(–2.51)		(–1.67)	
INSTIT ICRG Index	–0.022		–0.018	
	(–0.96)		(–0.80)	
CORR (control of corruption), KKM		–1.069***		–1.035***
		(–2.85)		(–2.85)
INSTIT KKM Index		0.249***		0.272***
		(2.59)		(2.82)
CTRL: log (GDP per capita)	0.783***	0.666***	0.786***	0.629***
	(6.11)	(3.36)	(6.20)	(3.33)
CTRL: population size	6.13e-09***	6.46e-09***	6.98e-09***	8.00e-09***
	(4.64)	(2.98)	(5.65)	(4.06)
CTRL: oil production	0.974***	1.136***	0.900***	1.053***
	(4.61)	(3.74)	(4.64)	(3.68)
Regional fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Transition country included	Yes	Yes	No	No
Prob > chi^2	0.000	0.000	0.000	0.000
No. of observations	875	473	767	413

Notes: z-statistics in parentheses.
*, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.
CORR: higher values = lower level of corruption.

are full of discussions on how to become rich, we only find a limited number of academic studies that have explored empirically the determinants of extraordinary wealth. However, besides the literature discussed in the paper, we do find discussions on the phenomenon of superstars. Rosen's (1981) seminal paper has initiated a lively dialogue regarding stardom and salary structure—stressing that in many professions a relatively small number of people boast prodigious salaries and dominate the field. Since then, the superstar effect has been investigated not only in the economics of sports, but also in the entertainment industry, such as Hollywood economics (De Vany, 2004), cultural economics (Frey, 2000), and academia (Azoulay *et al*., 2010; Torgler and Piatti, 2011), and more generally in winner-take-all markets, where a small heterogeneity in performance translates into large reward differences (Frank and Cook, 1995). Atkinson (2006) also points out: "Consideration of the origins of such fortunes suggests that many are made in 'winner take all' markets (as is evidenced by the fact that I am writing this paper using Microsoft Word, not WordPerfect which I used ten years ago)" (p. 25). Frank and Cook (1995) state that winner-take-all markets are found in a large number of situations, where markets have a non-linear pay structure, such that many individuals compete for a limited number of substantial prizes at the top. Bebchuk and Grinstein (2005) examine all S&P 500 firms and report that the mean compensation levels of chief executive officers and top-five executives increased from $3.7 million in 1993 to $9 million in 2003 (146 percent

increase).[14] The S&P 1500 have paid an aggregated compensation of not less than $350 billion to the top-five executives over the same period. Moreover, Bebchuk and Grinstein (2005) show empirically that the growth of compensations can only be partially explained by factors such as firm size or firm performance. Bebchuk *et al*. (2002) stress that managers have considerable power to shape their own pay arrangements and that managerial power and the desire to camouflage rent extraction can explain the nature of executive compensations. Gabaix and Landier (2008) follow the spirit of Rosen (1981) and employ extreme value theory to study CEO pay increases. They point out that the six-fold increase of U.S. CEO pay between 1980 and 2003 can be fully attributed to the six-fold increase in market capitalization of large companies.

In sum, our results indicate that globalization enhances super-richness. Countries' capacity to create international networks guaranteeing the freedom to exchange information, goods, and capital seems to be a key ingredient in enhancing the accumulation of extraordinary wealth. However, this positive relationship with creation of new productive entities is only one side of the coin. We have not explored empirically the distributional implications (income inequality) of globalization. In addition, the other side of the coin shows that extraordinary wealth is also generated through corrupt activities. We find that a higher level of corruption is correlated with super-richness. Such a result would suggest to find policy instruments to reduce corruption. It seems that in corrupt environments, wealth is often transferred into the hands of a small group of individuals. For example, experiences in Russia and Indonesia (under Suharto) have shown that a number of assets in the privatization and expropriation process were transferred to "insiders" of the system that was already in place. As Goldman (1998, p. 15) stresses, these people are not "Andrew Carnegies, Henry Fords, Bill Gates' or even John D. Rockefellers."

References

Atkinson, A. B., "Concentration among the Rich," Research Paper No. 2006/151, United Nations University, 2006.

Azoulay, P., J. S. Graff Zivin, and J. Wang, "Superstar Extinction," *Quarterly Journal of Economics*, 125, 549–89, 2010.

Barro, R. J., "Determinants of Democracy," *Journal of Political Economy*, 107, 158–83, 1999.

Bebchuk, L. A. and Y. Grinstein, "The Growth of Executive Pay," *Oxford Review of Economic Policy*, 21, 283–303, 2005.

Bebchuk, L. A., J. M. Fried, and D. I. Walker, "Managerial Power and Rent Extraction in the Design of Executive Compensation," *University of Chicago Law Review*, 69, 751–846, 2002.

Bhattacharyya, S. and R. Hodler, "Natural Resources, Democracy and Corruption," *European Economic Review*, 54, 608–21, 2010.

Bjørnskov, C., "The Multiple Facets of Social Capital," *European Journal of Political Economy*, 22, 22–40, 2006.

Blitz, R. C. and J. J. Siegfried, "How Did the Wealthiest Americans Get So Rich?" *Quarterly Review of Economics and Finance*, 32, 5–26, 1992.

Clark, W. C., "Environmental Globalization," in J. S. Nye and J. D. Donahue (eds), *Governance in a Globalizing World*, Brookings Institution Press, Washington DC, 86–108, 2000.

Davies, J. B. and A. F. Shorrocks, "The Distribution of Wealth," in A. B. Atkinson and F. Bourguignon (eds), *Handbook of Income Distribution*, North-Holland, Amsterdam, 605–75, 2000.

[14]The compensation information from the standard ExecuComp database in public U.S. companies provides information of executive's salary, bonuses, long-term incentive plans, the grant-date value of restricted stock awards, and the Black–Scholes value of granted options (p. 284).

De Vany, A., *Hollywood Economics. How Extreme Uncertainty Shapes the Film Industry*, Routledge, London, 2004.
Dietz, S., E. Neumayer, and I. De Soysa, "Corruption, the Resource Curse and Genuine Saving," *Environment and Development Economics*, 12, 33–53, 2007.
Dreher, A., "Does Globalization Affect Growth? Evidence from a New Index of Globalization," *Applied Economics*, 38, 1091–110, 2006.
Dreher, A. and N. Gaston, "Has Globalization Increased Inequality?" *Review of International Economics*, 16, 516–36, 2008.
Dreher, A., N. Gaston, and P. Martens, *Measuring Globalization—Gauging its Consequences*, Springer, New York, 2008.
Fjelde, H., "Buying Peace? Oil Wealth, Corruption and Civil War, 1985–99," *Journal of Peace Research*, 46, 199–218, 2009.
Frank, R. H., *Luxury Fever: Why Money Fails to Satisfy in an Era of Excess*, The Free Press, New York, 1999.
Frank, R. H. and P. J. Cook, *The Winner-Take-All Society*, The Free Press, New York, 1995.
Frey, B. S., *Arts and Economics: Analysis and Cultural Policy*, Springer, Heidelberg, 2000.
Friedman, M., *Capitalism and Freedom*, University of Chicago Press, Chicago, IL, 1962.
Gabaix, X. and A. Landier, "Why Has CEO Pay Increased So Much?" *Quarterly Journal of Economics*, 123, 49–100, 2008.
Gërxhani, K., "Tax Evasion in Albania: An Institutional Vacuum?" Paper presented at the Annual Meeting of the European Public Choice Society, Belgirate, 2002.
Goldman, M. L., "Russian Billionaire's Club," *International Economy*, 12, 10–15, 1998.
Gupta, S., H. Davoodi, and R. Alonso-Terme, "Does Corruption Affect Income Inequality and Poverty," *Economics of Governance*, 3, 23–45, 2002.
Gwartney, J., R. Lawson, and W. Easterly (eds), *Economic Freedom of the World, 2006 Annual Report*, Fraser Institute, Vancouver, 2006.
Hazledine, T. and J. Siegfried, "How Did the Wealthiest New Zealanders Get So Rich?" *New Zealand Economic Papers*, 31, 35–47, 1997.
Kaufmann, D., "Corruption: The Fact," *Foreign Policy*, 107, 114–31, 1997.
Kaufmann, D., A. Kraay, and M. Mastruzzi, "Governance Matters III: Governance Indicators for 1996–2002," World Bank, 2003.
Kennickell A., "A Rolling Tide: Changes in the Distribution of Wealth in the US: 1989–2001," in E. Wolff (ed.), *International Perspectives on Household Wealth*, Elgar, Cheltenham, pp. 19–88, 2006.
Knack, S., "Aid Dependence and the Quality of Governance: Cross Country Empirical Tests," *Southern Economic Journal*, 68, 310–29, 2001.
Kopczuk, W. and E. Saez, "Top Wealth Shares in the United States, 1916–2000: Evidence from Estate Tax Returns," *National Tax Journal*, 57, 445–87, 2004.
Leiken, R. S., "Controlling the Global Corruption Epidemic," *Foreign Policy*, 105, 55–73, 1996–97.
Levin, M. and G. Satarov, "Corruption and Institutions in Russia," *European Journal of Political Economy*, 16, 113–32, 2000.
Lujala, P., "The Spoils of Nature: Armed Civil Conflict and Rebel Access to Natural Resources," *Journal of Peace Research*, 47, 15–28, 2010.
McAdams, R. H., "Relative Preferences," *The Yale Law Journal*, 102, 1–104, 1992.
Mocan, N., "What Determines Corruption? International Evidence From Microdata," *Economic Inquiry*, 46, 493–510, 2008.
Morck R., D. Stangeland, and B. Yeung, "Economic Effects of Concentrated Corporate Ownership: Inherited Wealth, Corporate Control, and Economic Growth: The Canadian Disease?" in *Concentrated Corporate Ownership*, National Bureau of Economic Research, 319–72, 2000.
Morrison, K. M., "Oil, Conflict, and Stability," Mimeo, Department of Government, Cornell University, 2010.
Neumayer, E., "The Super-Rich in Global Perspective: A Quantitative Analysis of the Forbes List of Billionaires," *Applied Economics Letters*, 11, 793–96, 2004.
Nissanke, M. and E. Thorbecke, "Channels and Policy Debate in the Globalization-Inequality-Poverty Nexus," *World Development*, 34, 1338–60, 2006.
O'Rourke, K. H., "Globalization and Inequality: Historical Trends," NCER Working Paper 8339, 2001.
Petras, J., "Global Ruling Class: Billionaires and How They 'Make It'," *Journal of Contemporary Asia*, 38, 319–29, 2008.
Plümper, T., V. E. Troeger, and P. Manow, "Panel Data Analysis in Comparative Politics: Linking Method to Theory," *European Journal of Political Research*, 44, 327–54, 2005.

Razafindrakoto, M. and F. Roubaud, "Are International Databases on Corruption Reliable? A Comparison of Expert Opinion Surveys and Household Surveys in Sub-Saharan Africa," *World Development*, 38, 1057–69, 2010.
Reinikka, R. and J. Svensson, "Using Micro-Surveys to Measure and Explain Corruption," *World Development*, 34, 359–70, 2006.
Rose-Ackerman, S., *Corruption and Government: Causes, Consequences, and Reform*, Cambridge University Press, Cambridge, 1999.
Rosen, S., "The Economics of Superstars," *American Economic Review*, 71, 845–58, 1981.
Ross, M. L., "Does Oil Hinder Democracy?" *World Politics*, 53, 325–61, 2001.
Shaxson, N., "Oil, Corruption and Resource Curse," *International Affairs*, 83, 1123–40, 2007.
Siegfried, J. J. and A. Roberts. "How Did the Wealthiest Britons Get So Rich?" *Review of Industrial Organization*, 6, 19–32, 1991.
Siegfried, J. J. and D. K. Round, "How Did the Wealthiest Australians Get So Rich?" *Review of Income and Wealth*, 40, 191–204, 1994.
Søreide, T., "Is it Wrong to Rank? A Critical Assessment of Corruption Indices," CMI Working Papers, 2006.
Sutcliffe, B., "World Inequality and Globalization," *Oxford Review of Economic Policy*, 20, 15–37, 2004.
Tanzi,V., "Corruption Around the World: Causes, Consequences, Scope, and Cures," in T. Abed and S. Gupta (eds), *Governance, Corruption & Economic Performance*, International Monetary Fund, Washington DC, 19–58, 2002.
Torgler, B. and M. Piatti, "A Century of American Economic Review," CREMA Working Paper Series 2011-04, Center for Research in Economics, Management and the Arts, 2011.
Treisman, D., "The Causes of Corruption: A Cross-National Study," *Journal of Public Economics*, 76, 399–457, 2000.
———, "What Have We Learned About the Causes of Corruption from Ten Years of Cross-National Empirical Research?" *Annual Review of Political Science*, 10, 211–44, 2007.
Tsui, K. K., "More Oil, Less Democracy: Evidence from Worldwide Crude Oil Discoveries," *Economic Journal*, 121, 89–115, 2011.
Vicente, P. C., "Does Oil Corrupt? Evidence from a Natural Experiment in West Africa," *Journal of Development Economics*, 92, 28–38, 2010.
Wade, R. H., "Is Globalization Reducing Poverty and Inequality?" *World Development*, 32, 567–89, 2004.
Watkins, G. P., "The Growth of Large Fortunes," *Publications of the American Economic Association*, 8, 1–170, 1907.
Weber Abramo, C., "How Much Do Perceptions of Corruption Really Tell Us?" *Economics: The Open-Access, Open-Assessment E-Journal*, 2, 2008-3, 2008.
Zhang, X. and K. H. Zhang, "How does Globalisation Affect Regional Inequality Within a Developing Country? Evidence from China," *Journal of Development Studies*, 39, 47–67, 2003.

Supporting Information

Additional Supporting Information may be found in the online version of this article at the publisher's web-site:

Table A1: Countries (122 countries, based on specification [1])
Table A2: Descriptive Statistics
Table A3: Determinants of Extreme Wealth (NBI)
Table A4: Billionaires per Country per Year
Table A5: Classification of Transition Economies