

Altruistic Capital[†]

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To better understand human behavior, economists have enriched the private utility maximization model with altruism and prosociality, reciprocity and fairness, identity, and values (Akerlof and Kranton 2005; Benabou and Tirole 2003; Besley and Ghatak 2005; Fehr and Schmidt 1999; Rabin 1993; Tabellini 2008). These factors are incorporated into preferences and, whilst they can vary across generations as parents transmit values to their children (Bisin and Verdier 2000; Tabellini 2008), they are fixed for any given individual.

This is in sharp contrast with studies in ethics and moral philosophy that are concerned with the process through which virtues develop. A key mechanism is that virtue is an asset that grows through righteous acts, as argued in Aristotle's *Nicomachean Ethics*. We formalize this idea by introducing altruistic capital, defined as an asset that enables individuals to internalize the effect of their actions on others. In contrast to altruistic preferences, that are fixed, altruistic capital can be accumulated or depleted over time within the same individual, and affected by policy. Our key assumption, which follows directly from Aristotle's intuition, is that individuals accumulate altruistic capital by doing altruistic acts. In this framework, policies that encourage altruistic behavior in the short run facilitate altruism in the long run and agents' altruistic behavior depends both on their innate preferences as well as the extent to which they operate in a context that encourages the accumulation of altruistic capital.

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We illustrate our ideas in an industry that is perceived to be highly selfish: banking. Two observations motivate us. First, bankers affect social welfare through many channels, most importantly by allocating credit to productive rather than predatory or speculative activities. Recent events have demonstrated that getting this balance wrong can have profoundly negative consequences on society. Second, the policy implications of the fixed preferences and the altruistic capital model differ substantially. Indeed if preferences are fixed, the only way aggregate altruism can change within an organization or industry is by attracting individuals with different preferences. In contrast, altruistic capital can be accumulated and shaped by policy.

We collaborate with a global bank to provide evidence on two of the building blocks of the altruistic capital model. We collect data on employees' perceived returns to altruistic acts (not their altruistic preferences) using a survey that covers just under 10,000 employees across 50+ countries. We find that (i) returns vary substantially across countries and across job types; (ii) higher returns are associated with effort devoted to the prevention of financial crime—a high social impact activity—as well as better performance on their main task and their attitudes toward cooperation with others inside and outside the bank; and (iii) returns are lowest in countries where the financial crisis hit the hardest. Given that this is correlated with performance, the crisis might have triggered a vicious circle from low perceived returns to altruistic effort to lower effort to lower altruistic capital and hence even lower effort. These results suggest that policies that raise the returns to altruistic acts can promote the accumulation of altruistic capital.

I. Framework

An individual is hired to perform a job that comprises both private and altruistic tasks. To illustrate in our banking context, loan officers are tasked to sell financial products and to screen

clients for potential involvement in socially harmful activities, such as prostitution rings, money laundering, or terrorism. The first is a private task that brings revenues to the bank, the second is an altruistic task that affects the welfare of others in society. Agent i in every period t , chooses how much effort to devote to selfish s and altruistic a tasks. Selfish tasks generate profits for the organization and yield a monetary payoff for the agent $Y = ms$ while altruistic acts generate social welfare according to the function W . The weight the agent puts on W depends on her social preferences σ_i and on the reward θ_t that the organization or society attaches to W . As is standard in the literature, the preference parameter σ_i is individual specific, exogenous, and captures both pure altruism and warm glow. θ_t , in contrast, is common to all individuals in the same organization and can be manipulated by policy. Organizations might care about social welfare by design or as a response to regulation. Banks, for instance, can be fined if found to serve clients engaged in crime and, because of this, might want to incentivize their loan officers to be watchful.

Agent i 's utility at time t equals $Y_{it} + (\sigma_i + \theta_t) W_{it} - d(s_t, a_t)$ where $d(\cdot)$ is the disutility of work. The social welfare produced by agent i at time t is an increasing function of the effort she devotes to altruistic tasks a_{it} and her stock of altruistic capital A_{it} : $W(a_{it}, A_{it})$. Following Solow (1995) and Guiso, Sapienza, and Zingales (2010) we use the term "capital" to describe a durable factor that (i) can be measured; (ii) requires costly actions in the present to produce benefits in the future; and (iii) has a precise mechanism through which it is accumulated and depleted.

Starting with the latter, we assume that altruistic capital grows proportionally to the effort devoted to altruistic tasks as virtue in Aristotle's quote. Following Lucas' (1988) model of human capital accumulation, we assume that a share u of the effort devoted to altruistic tasks increases social welfare directly in the period it is exerted while the remaining $1 - u$ increases altruistic capital in the next period. The accumulation of altruistic capital is therefore not deliberate, but rather a by-product of altruistic acts. This captures Aristotle's idea that righteous acts build "virtue." Altruistic capital in period t can then be measured as $A_t = (1 - u)a_{t-1} + (1 - \delta)A_{t-1}$ where δ is the depreciation rate, as altruistic

capital—like any other form of capital—becomes obsolete.

We model the payoff of altruistic capital as a boost to the production of social welfare $W_{aA} > 0$, that is altruistic capital increases the marginal product of altruistic effort. This captures the idea that altruistic capital facilitates altruistic acts because, for instance, agents learn how to spot opportunities to help others, or, in a model with limited attention, makes altruistic acts more salient. Intuitively, individuals who have been performing several altruistic acts in the past require less effort to obtain the same result.¹ Accumulating A is costly either in terms of forgone leisure or forgone monetary gains. While this depends on the exact context, the key feature is that, akin to investments in physical and human capital, costs are incurred at time t while (a share $1 - u$ of) benefits materialize in the future.

The marginal return to altruistic acts $((\sigma_i + \theta_t) W_a(u a_{it}, A_{it}) - d_a(s_{it}, a_{it}))$ thus can be increased by changing θ_t , the reward given for altruism, or the slope of the "production function" W_a , for example by providing evidence on how the effort of agent i affects W . A key feature of this model is that, since $W_{aA} > 0$, the reward needed to incentivize a given level of altruistic effort is decreasing in the level of altruistic capital. Thus, an organization only needs to provide strong incentives (high θ) until A is sufficiently high.

II. Measuring the Returns to Altruism

The framework has two building blocks: (i) that returns to altruistic effort, and hence the choice to put forth effort, depend on context specific factors that can be shaped by policy and exogenous events, (ii) that altruistic effort today leads to the accumulation of altruistic capital that increases the returns to altruistic effort in the future. We now show evidence on (i) and briefly discuss (ii) in the conclusion.

¹ Alternatively one could assume that the cost of devoting effort to altruistic tasks is decreasing in A ; these two formulations are equivalent.

A. Data

We collect measures of θ and W_a through a survey that our partner bank administers every month to 10 percent of their employees globally; of these, about 35 percent respond. The sample is stratified by country and job function (e.g., retail banking, human resources), which allows us to assess whether individuals in different contexts face different returns to altruistic effort. We use the survey administered in October 2016, to which we added two questions on perceived social impact and social worth (Grant 2008) that proxy W_a (the effect that bankers have on society) and θ (society's appreciation of bankers' impact), respectively.² Both measures range from 1 to 5 and their sample average (SD) are 3.88 (0.72) and 3.54 (0.88). Their correlation is 0.62.

B. Variation Across Jobs and Countries

We find that the perceived returns to altruistic effort are weakly correlated with demographics that might shape preferences (gender, age, and tenure) and pay band, but are strongly correlated with job type (e.g., finance, HR, private banking) and country. Figure 1 reports these strong correlations. To improve readability, the figure is rescaled by subtracting the group that has lowest returns. Panel A shows that perceived returns are, predictably, highest for corporate sustainability, while they are lower for back-office functions such as the legal and marketing offices.

Panel B shows very large differences across countries: in general, both measures are lower in higher income countries, which is where the hit of the financial crisis was more severe and where there was a significant drop of public trust in bankers (Stevenson and Wolfers 2011). Figure 2 plots the average social impact

²Perceived social impact is measured with three statements: "I feel that my work makes a positive difference in other people's lives," "I am very aware of the ways in which my work is benefiting others," and "I am very conscious of the positive impact that my work has on others." Perceived social worth is measured with three statements: "I feel that other people in society appreciate my work," "I feel that other people in society value my contributions at work," and "I feel that other people in society respect me for my work." In both cases, the three statements are answered on a scale of 1 to 5, with 1 being "strongly disagree" and 5 being "strongly agree," and the answers are then averaged.

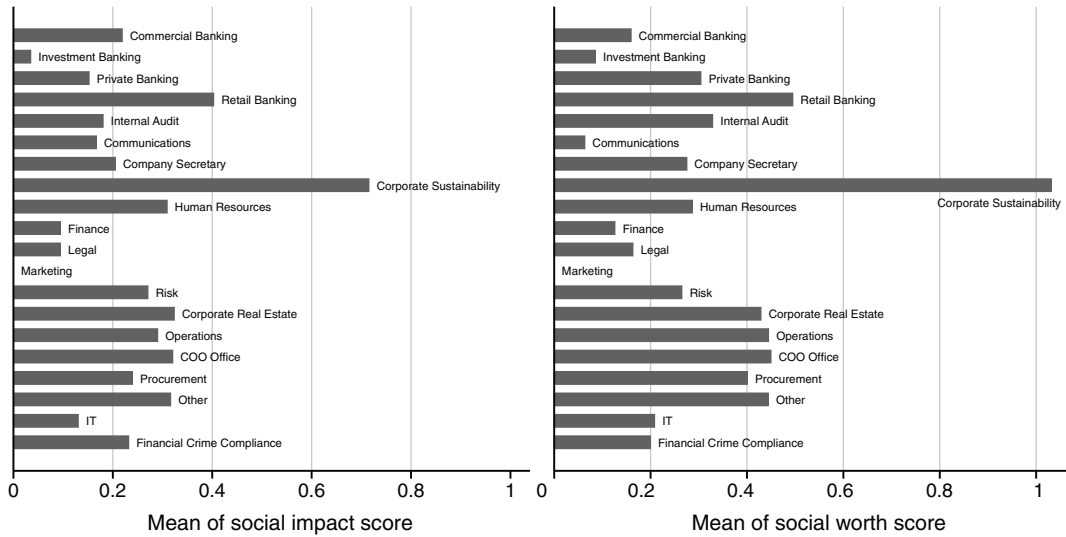
(worth) conditional on demographics and job traits against the change in unemployment rates around the crisis (2007 to 2009), as well as the line of best fit estimated at the country level. Averages are weighted by the employee population in that country. The evidence suggests that perceived social impact, that is the bankers' own assessment of whether their actions affect others, is not correlated with the severity of the crisis. This is consistent with the fact that the job has remained essentially the same. In contrast, perceived social worth is much lower in countries that took a hard hit.

C. Correlation with Altruistic Acts and Performance

The core question is whether higher returns make bankers devote more effort to altruistic tasks. In the absence of an exogenous source of variation that can be used to identify causal impacts, we present descriptive evidence on the correlation between our measures of returns and proxies for effort devoted to altruistic tasks and to their main task. Because the nature of pro-social tasks differs depending on the exact job description, we split employees into those who provide banking services to clients directly and those in support functions and back office. For the former, one of the main drivers of social impact is allocating credit to its most productive use rather than to agents engaged in illegal activities. We measure the effort devoted to screening clients by the response to the question on engagement with the "due diligence" process, namely the effort devoted to screening clients for financial crime. To avoid surveyor demand effects on this relatively sensitive question, the question is asked about the office in general and is a more accurate reflection of individual beliefs and effort. In addition, for both groups we merged the survey data with personnel records of their supervisors' assessment of whether the employee has "good values" such as integrity, cooperation, and connection with the customer. To measure effort devoted to regular tasks we use the supervisors' assessment of their performance relative to expectations for that role. Both the values and performance measures are those used to determine the annual bonuses.

Table 1 shows OLS regressions that control for the correlates of returns discussed in Section IIB. We find that returns to altruistic effort are

Panel A



Panel B

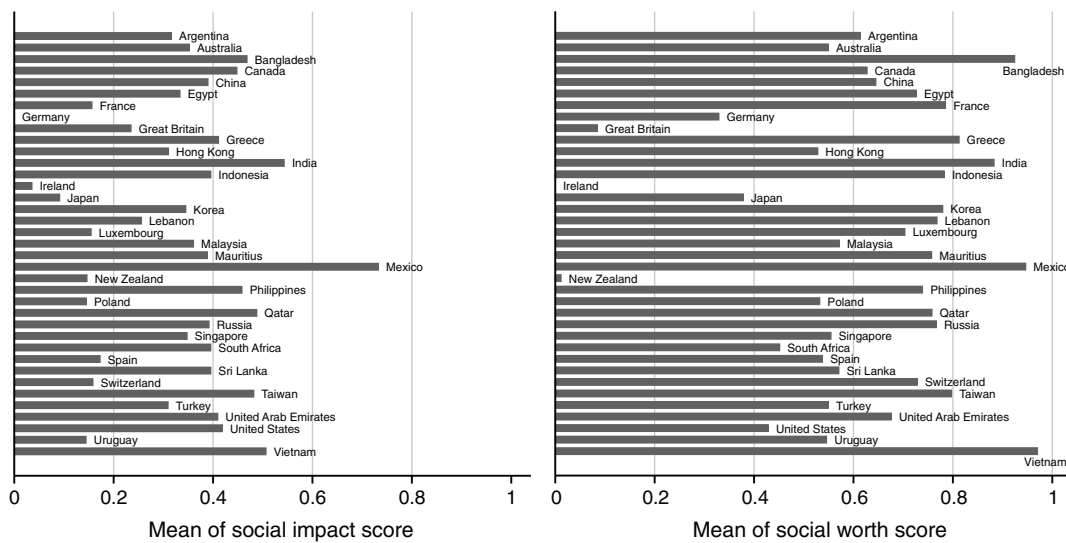


FIGURE 1. RETURNS BY JOB TYPE AND COUNTRY

Note: Panel B is restricted to the 37 (out of 58) countries with more than 30 observations and multiple international banks.

correlated with effort. The largest correlations are with client screening, that is the measure that is most closely related to social impact: a one standard deviation increase in perceived social impact (social worth) is correlated with a quarter (14 percent) of a standard deviation

increase in engagement in screening clients for financial crime. The findings are thus consistent with the idea that higher returns to altruistic effort are associated with more effort devoted to altruistic tasks and that this does not come at the expense of the main task.

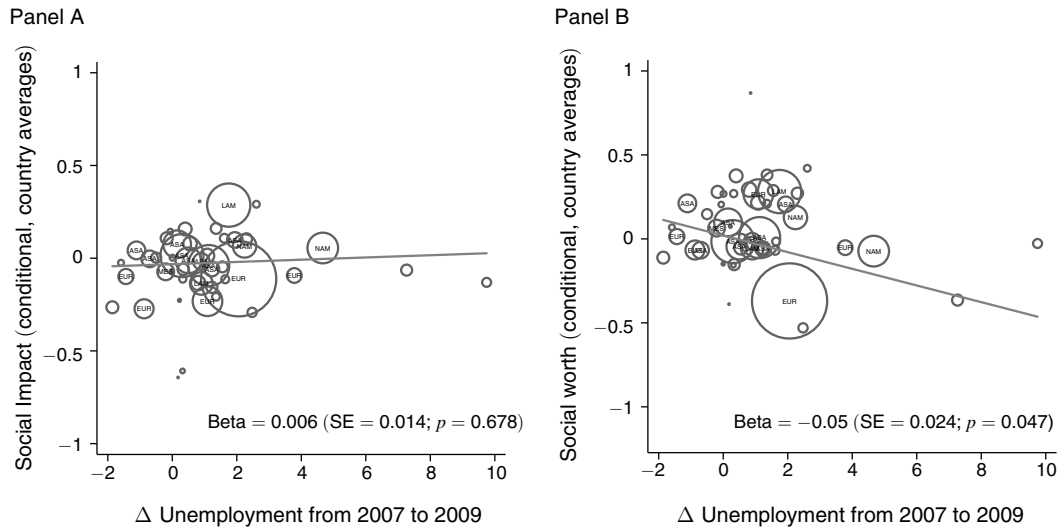


FIGURE 2. THE 2008 FINANCIAL CRISIS AND RETURNS TO ALTRUISTIC EFFORT

Notes: Changes in unemployment are from Stevenson and Wolfers (2011). Conditional social impact/worth are the residuals of a regression of impact/worth on all controls except country dummies, averaged at the country level. The bubbles are proportional to the sample in each country and labelled with the country's region. The regression is estimated at the country level.

TABLE 1—CORRELATIONS BETWEEN PERFORMANCE AND THE RETURNS TO ALTRUISTIC CAPITAL

Employee type	Frontline			Back office	
	Client screening (1)	Values (2)	Performance (3)	Values (4)	Performance (5)
Social impact	0.268 (0.0291)	0.0615 (0.0302)	0.0670 (0.0270)	0.0354 (0.0137)	0.0511 (0.0157)
Social worth	0.126 (0.0346)	-0.0129 (0.0113)	0.0407 (0.0198)	0.0156 (0.00768)	0.00213 (0.0104)
Observations	2,827	2,436	2,653	5,962	6,217
SD of LHS	0.775	0.509	0.802	0.454	0.785
R ²	0.180	0.094	0.096	0.067	0.089

Notes: Data is at the individual level, and standard errors are clustered at the country level. All specifications include country fixed effects and controls for gender, age, job area, tenure in the bank, and salary band. Performance rates employees 1–4 for the extent to which they meet the expectations of their current role. Values rates employees 1–4 for whether they act with integrity, are dependable, are open to different ideas, and are connected to customers. Client screening is the answer to the question “Where I work, people are confident talking to customers about our Customer Due Diligence/ Know Your Customer (CDD/KYC) requirements.” This was answered on a scale of 1 to 5, with 1 being “strongly disagree” and 5 being “strongly agree.” Frontline (back-office) employees are those who answered yes (no) to: “Do you have regular contact with customers outside of BANKNAME as part of your day to day role.”

III. Conclusion

We have introduced the concept of altruistic capital as an asset that facilitates altruistic acts

and that can be shaped by policies. We have shown descriptive evidence that employees in a global bank face different returns to altruistic effort, with wide variation across jobs and

countries; in particular, returns are lower in countries that were more severely hit by the financial crisis. Higher returns are associated with more prosocial behaviors in the workplace. The fact that returns can be shaped by external events opens the possibility that an intervention that increases the returns to altruistic capital triggers a virtuous circle that leads to prosocial behavior and the accumulation of more altruistic capital. It also opens up a different way to look at altruism within organizations. With fixed preferences the stock of altruism in the economy is fixed and understanding altruism in organizations is a matter of understanding the sorting of individuals with different preferences into different organizations. With accumulable altruistic capital, firms can provide incentives for its accumulation. In general, more research is needed into whether and how altruistic capital can aggregate and provide value within an organization, and how it can be leveraged or depleted by organizational policies and regulation.

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