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Who works in the public sector? Evidence from the World Values Survey

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Abstract
Earlier single-country studies found a higher level of intrinsic motivation among public sector workers, compared to the private sector. Using data from the World Values Survey, covering 51 countries, we find a tendency for public sector workers to be more intrinsically motivated, but this is not a universal relationship: we also show that the level of government corruption (appropriately instrumented) explains some of the variation across countries. Consistent with earlier studies that find that selection accounts for differential motivation across sectors, we show that intrinsically-motivated workers are less likely to work in the public sector when corruption is higher.

Keywords: Intrinsic motivation, public sector, corruption

JEL Classification: D64, D73, J45

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1. Introduction

There is a growing theoretical and empirical literature that emphasizes the importance of intrinsic – or pro-social – motivation among public sector workers. Using different indicators, a number of studies have found evidence to support the idea that public sector workers are more pro-socially motivated than private, for-profit workers. For example, public sector workers self-report a higher level of intrinsic motivation than private sector workers (Perry 1996, Houston 2000). They are more likely to vote in elections and to engage with civic groups (Brewer 2003) and to report charitable donations of time, blood and money (Houston 2006). Gregg et al (2011) also found evidence of pro-social behaviour in relation to their main employment – workers in non-profit organisations are more likely to donate labour, measured by whether or not they do unpaid overtime.

Previous empirical studies looking at intrinsic motivation among public sector workers have tended to focus on individual countries. In this paper we use data from the World Values Survey (WVS) to compare the characteristics of public and private sector workers, including their intrinsic motivation, across 51 countries that cover a range of income levels, political regimes and cultures. We show that there is a strong tendency for public sector workers to be more intrinsically motivated than private sector workers in many countries, but that this is not a universal relationship. Indeed, there are many countries where public sector workers are less pro-socially motivated than private sector workers.

The main contribution of this paper is to explore whether differences in corruption across countries can explain (some of) the variation in intrinsic motivation among public sector workers. A number of papers have emphasized that worker selection plays an important role in explaining how pro-socially motivated workers come to be in the public sector, either because they are attracted by the mission of the sector (Dixit, 2002, Besley and Ghatak, 2005) or because

the sector provides an opportunity for workers to signal their intrinsic motivation (Bénabou and Tirole, 2007, Delfgaauw and Dur, 2007, 2009) and there is empirical evidence to support this selection mechanism (Steijn, 2008, Gregg et al 2011). It seems likely that intrinsically motivated workers would be less attracted to work in a corrupt administration either because they would be less likely to share a corrupt organisation's mission or alternatively because working in the public sector would no longer provide a signal of their intrinsic motivation. Discussing the case of healthcare in Ethiopia, for example, Serra, Sernels and Barr (2011) argue that pro-social health professionals choose not to work in the corrupt public sector. We generalize this and look at whether differences in the level of corruption across countries are associated with differences in the degree of pro-sociality among public sector workers. We show that corruption, appropriately instrumented, has a negative effect on the degree of intrinsic motivation among public sector workers. We also find that pro-socially motivated workers are less likely to work in the public sector when levels of corruption are higher.

The plan of the paper is as follows. The next section describes the World Values Survey and the main variables used. Section 3 compares characteristics of public and private sector workers while section 4 looks at the relationship between the level of intrinsic motivation and corruption. Section 5 concludes.

2. *The World Values Survey*

We analyse data from wave five of the World Values Survey, carried out over the period 1st April 2005 – 31st December 2006. Our sample consists of 59,604 respondents from 51 countries, representing a total population of 4.8 billion (73.3 per cent of the world population)[1].

[1] Population figures based on World Bank population statistics for 2006 http://data.worldbank.org/indicator/SP.POP.TOTL

Information on the sample sizes for each country, which range between 668 and 2,697, is given in Table 1.

Sector of employment

The latest wave of the survey for the first time collected information on sector of employment – either for current employment or for previous "major work". We focus only on current employees in line with the approach taken in most previous studies.

Specifically, the question asks the following:

> *Are you working for the government or public institution, for private business or industry, or for a private non-profit organization? Do you or did you work for:*
>
> *1 Government or public institution*
>
> *2 Private business or industry*
>
> *3 Private non-profit organization*

The proportions who report working in each sector are shown in Table 1, together with an external benchmark of employment in the public sector, which we take from the International Labour Organisation (Labour Statistics Database, 2006). Ideally, we would like separately to analyze employment in the not-for-profit sector but the sample sizes for most countries are too small to do this in a meaningful way. Our focus is therefore on workers in the public sector and the private, for-profit sector.

There is some suggestion that the WVS under-estimates the proportion that works in the public sector compared to the ILO figures, but public sector size measured in the WVS is positively and

significantly correlated with the external benchmark[2] (the correlation coefficient is 0.337). Figure 1 shows this more clearly.

<< Figure 1 neare here>>

Intrinsic motivation

The World Values Survey contains a number of indicators of intrinsic motivation. The main one we use captures individuals' work motivation:

> *Regardless of whether you're actually looking for a job, which one would you, personally, place first if you were looking for a job:*
>
> *1 A good income so that you do not have any worries about money*
>
> *2 A safe job with no risk of closing down or unemployment*
>
> *3 Working with people you like*
>
> *4 Doing an important job that gives you a feeling of accomplishment*

We interpret the response, "doing an important job", as an indicator of intrinsic motivation.

[2] In this paper unless otherwise stated we define WVS public sector employment as those who responded that they currently work for 'Government or a public institution.' However, when comparing the relative size of the public sector in the WVS with the ILO measure of the public sector, we also include NFP workers in the WVS definition of the public sector. This is because the public sector in the ILO database is defined as all market or non market activities which at each institutional level are controlled and mainly financed by a public authority. This therefore includes non-market Non Profit Institutions (NPIs) that are controlled and financed by a public body. http://laborsta.ilo.org/applv8/data/SSMe.html.

As well as work motivation, we also look at individuals' broader self-perception of themselves with a second indicator based on questions that ask respondents about what things are important to them in life:

> *Now I will briefly describe some people. Would you please indicate for each whether that person is very much like you, like you, somewhat like you, not like you, or not at all like you?*
>
> *It is important to this person to help the people nearby, to care for their wellbeing.*[3]

We define people as being pro-socially motivated if they respond that this person is "very much like them" or "like them". To control for person-specific response bias we also condition on people who respond negatively to being rich and having a lot of money.

As a final indicator, we also look at individuals' self-reported activity in organisations that might be considered pro-social, including charity, and environmental organisations.

3. Comparison of public and private sector workers

Table 2 summarizes for each country in our sample the proportions of public and private sector workers who we would define as intrinsically motivated according to the three different indicators. The raw data show a clear tendency for workers in the public sector to be more pro-socially motivated than workers in the private sector, but this is not universal. Looking at work motivation, for example, there are a number of countries, including Mali, South Korea, Bulgaria and Spain, where private sector workers have a higher level of intrinsic motivation.

To examine the relationship further and to control for other differential characteristics of public sector workers we run regressions of the following form for each of the 51 countries in the World Values Survey for which we have information:[4]

[3] Another potential indicator of pro-sociality is individuals who agree that it is important to this person to look after the environment. This yields very similar results.

$$Pub_i = \beta_0 + \beta_1 M_i + X_i\gamma + u_i$$

Where Pub_i is a binary indicator that takes the value 1 if the individual works in the public sector (equal to zero if the individual works in the private sector) and M_i is an indicator of intrinsic motivation (each indicator is included separately). X_i is a vector of control variables, including age, gender and education level. We estimate these regressions using a linear probability model which makes it easier to interpret the coefficients – the results from running a probit model are very similar.

Coefficients from the 51 regressions are reported in Table 3. There are clear differences in the demographic characteristics of public and private sector workers. There is a near-universal tendency for public sector workers to be older, to be more likely to be female and to be better educated than private sector workers. In 44 out of 51 countries, age has a positive effect on the probability of working in the public sector (this is statistically significant for 31). In 44 countries, being female has a positive effect (statistically significant for 28) and in all but one country, having a degree has a positive effect (statistically significant for 45). When we control for some of the difference in job types between the two sectors by looking only at non-manual workers, the results are qualitatively similar although there is less statistical significance because of the smaller sample sizes.[5]

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[4] This approach is very similar to Aknin et al (2010) who look at the relationship between giving to charity and subjective well-being across a large number of different countries. In the WVS we also find that people with higher levels of subjective well-being are also more likely to work in the public sector (positive for 41 out of 51 and statistically significant for 18).

[5] The survey does not have any information on occupations that would allow us to control further for differences in job types.

The regression results confirm the findings from the raw data of the strong tendency for public sector workers to have a higher level of intrinsic motivation than private sector workers, but that this is not a universal relationship. For 30 (out of 51) countries workers reporting that their primary motivation is doing an important job are more likely to work in the public sector (statistically significant for 6). However, there are 21 countries for which the relationship runs in the other direction. When we include people whose second motivation is an important job (results not reported), the relationship appears slightly stronger – the coefficients are positive in 38 countries (statistically significant for 16) – although again there are some countries for which the coefficients are negative.

The results based on the life motivation variable are very similar. For 33 (out of 50) countries, people who think it is important to help others are more likely to work in the public sector (statistically significant for 10). Finally, those who are active in a charity/ environmental organisation are more likely to work in the public sector in 48 countries out of 51, statistically significant for 18. However, we find a qualitatively similar relationship (albeit weaker) for individuals who are active in a sports organisation, suggesting that the activity indicators may reflect other factors, such as time availability, as well as (or instead of) intrinsic motivation.

4. *Corruption and intrinsic motivation*

In this section we explore one possible explanation for variation in intrinsic motivation across countries, namely corruption. First, we show that, across countries, the level of government corruption has a negative effect on the degree of intrinsic motivation among public sector workers, exploiting a number of previously-used instruments for the level of corruption. Secondly, we present supporting evidence that intrinsically-motivated workers are less likely to work in the public sector in countries where the government is more corrupt.

By way of motivation, Figure 2 clearly shows a negative relationship in the raw data between the level of intrinsic motivation among the public sector workforce in a country (measured by the difference between the public and private sector in the proportions of workers who cite their primary work motivation as doing an important job[6]) and how corrupt the country is perceived to be, measured by the corruption perception index (CPI).

<<Figure 2 near here>>

There are a number of possible explanations for this negative relationship. Perhaps most obviously, the more intrinsically motivated the workers in the public sector, the less likely they may be to engage in corrupt activities (accept bribes, embezzle public funds etc). Arguably since the measure of corruption is derived from people's perceptions of the level of corruption, which may include their perception of the motivations of public sector workers, the two measures might actually capture the same thing.

Another possibility is that both the level of corruption and the level of intrinsic motivation are jointly determined by other factors – such as wages. Ex ante, it is unclear which way the relationship would go. The literature suggests that higher wages are necessary to reduce the extent of corruption (Van Rijckeghem and Weber, 2001), although high wages may then attract extrinsically motivated workers. We test the sensitivity of our results to wages below.

Here, we are interested in the alternative direction of causation – that the level of corruption in a country may have an effect on the level of pro-social motivation among public sector workers. This idea is suggested by recent studies that have emphasized the role of selection in explaining why levels of pro-social motivation are higher in the public sector. A number of papers have argued that intrinsically-motivated individuals are likely to match with mission-oriented non-

[6] The relationship is strongest when we use this indicator, but other indicators yield qualitatively similar results.

profit organisations, including the public sector (Dixit, 2002, and Besley and Ghatak, 2005). An alternative mechanism is that intrinsically-motivated individuals who also care about their reputation will choose to signal their altruism by working in the public sector (Bénabou and Tirole, 2007, Delfgauuw and Dur, 2007, 2009). In the empirical literature Steijn (2008) and Gregg et al (2011) provide evidence of there being such a selection mechanism for the Netherlands and the UK, showing that high (low) PSM types tend to choose public (private) rather than private (public) sector work.

The implicit assumption here is that intrinsically-motivated workers select into the public sector. But what if the government is corrupt? Intuitively, this would seem likely to make the public sector less attractive to pro-socially motivated individuals. Corruption would tend to undermine the public sector's mission making it less attractive to people who are mission-oriented; also individuals would not be able signal their intrinsic motivation by choosing to work in a corrupt administration. Discussing the case of healthcare in Ethiopia, for example, Serra, Sernels and Barr (2011) argue that "the original mission of the public sector ... has been eroded by decades of central planning, weak monetary incentives and poor accountability". They find evidence that pro-social and philanthropic health professionals choose not to work in the public sector (but instead choose the not-for-profit sector). In what follows we look at whether differences in the level of corruption across countries are associated with differences in the degree of pro-sociality among public sector workers.

4.1 Variation across countries

To test for a relationship between corruption and the degree of pro-social motivation among public sector workers, we estimate the following equation:

$$M_c^{PUB} = \beta_0 + \beta_1 CPI_c + Z_c\gamma + u_c$$

where M_c^{PUB} is a measure of the level of intrinsic motivation among public sector workers in country *c*, measured by the difference between the proportion of public sector workers and private sector workers citing doing an important job as their primary work motivation. *CPI* (the Corruption Perception Index) is our measure of corruption. This widely-used measure captures the degree to which public officials and politicians are believed to accept bribes, take illicit payment in public procurement, embezzle public funds, and commit similar offences. Each country is given a score from 0 to 10 – we re-scale such that a higher number indicates a more corrupt administration. The index is based on 17 different polls and surveys, typically of business managers and experts (eg risk analysts and international organisations).

X is a vector of controls including other differences in characteristics of public and private sector workers (average age, proportion female and education) and the size of the public sector (proxied by government spending as a share of GDP). We also control for the level of GDP; individuals in richer countries may be better able to prioritize an important job rather than a job with a good income (although focusing on the difference between motivations in the public and private sector should help to take care of the effect of the level of GDP) and there may be systematic differences in corruption across rich and poor countries. We also do a robustness check including government wages to confirm that the results are robust to levels of remuneration in the public sector, although this information is only available for a sub-sample of 32 countries.

Estimating this equation by OLS is likely to yield a biased estimate of the coefficient β_1 because of the potential endogeneity of corruption. This includes not only the possible effect of pro-sociality on corruption, but also the possibility that both the degree of corruption and pro-sociality are jointly determined by some other factor, such as wages. We therefore instrument corruption using two variables suggested by the literature – latitude and uninterrupted years since becoming a democracy.

A country's latitude has consistently been used by previous studies to instrument for corruption (see for example Gupta et al, 2002, Cole, 2007). The instrument captures the extent of Western Europe's influence around the world. Hall and Jones (1999) originally suggested latitude as an instrument for the quality of institutions. Their argument was that Western European explorers were more inclined to settle in counties which were both sparsely populated and had a comparable climate – and hence latitude – to Europe (including USA, Canada and Australia). Western Europeans tended to establish well-defined property rights and relatively good quality institutions, thus countries with greater latitude are generally associated with lower levels of corruption due to the positive Western European influence on a country's social infrastructure.

The second instrument is years of uninterrupted democracy (as used in Aidt et al., 2008). Treisman (2000) and Persson and Tabellini (2003) argue that countries with a longer period of democratic rule have developed better processes in which to minimise corruption. The political system and the fear of losing the next election increase incentives to act fairly and in a non-corrupt way. Lederman et al (2005) found that corruption is higher in countries that have a shorter or no democratic tradition.

The results, reported in Table 4, suggest that these instruments are valid – the F-statistic from the first stage is greater than 10 and the p-value from the Sargan test shows that the null that the instruments are exogenous is not rejected. The IV results confirm that the level of corruption in the country has a negative effect on the level of intrinsic motivation among public sector workers. This is robust to including controls for GDP, government size and wages.

The magnitude of the estimated coefficient indicates that a one point increase in the corruption perception index is associated with a three percentage point reduction in the degree of intrinsic motivation among workers in the public sector relative to those in the private sector. Within Europe, the gap between the most corrupt country (Italy) and the least corrupt country (Finland) is 4.7 points which would imply a 14 percentage point reduction in pro-social motivation. This is

fairly similar to the observed difference in practice, which is 12 percentage points (a difference of +0.110 in Finland and a difference of -0.007 in Italy.)

4.2. Worker selection

As discussed above, one possible mechanism through which a negative relationship between corruption and the level of intrinsic motivation in the public sector may arise is if intrinsically-motivated workers are less likely to choose to work in the public sector if the government is corrupt.

To explore this, we estimate the following equation:

$$Pub_{ic} = \beta_0 + \beta_1 M_i + \beta_2 CPI_c + \beta_3 M_i CPI_c + X_i\gamma + Z_c\delta + u_{ic}$$

As before, *Pub* is a binary indicator equal to one if the individual works in the public sector, but we now pool data from all countries and look at the effect of both individual characteristics (including intrinsic motivation) and country-level characteristics, including the level of corruption, instrumented as before. The coefficient on the interaction term, β_3, picks up whether the level of corruption has an effect on intrinsically motivated workers' choice to work in the public sector.

The results are reported in Table 5 with standard errors clustered at the country-level. The coefficient β_2 identifies the direct effect of corruption on whether or not someone chooses to work in the public sector for those who are not intrinsically motivated. This is positive in the specifications in columns (1) and (2) but insignificant once we control for the size of the government in column (3). As before, we find that intrinsically motivated workers are more likely to work in the public sector, and indeed the relationship is stronger when we include the interaction term with corruption. We find that the coefficient on the interaction term, β_3, is negative and significant, indicating that intrinsically motivated workers are less likely to work in the public sector when the government is more corrupt. Again comparing the most corrupt

country in Europe with the least, our main results in column (3) indicate that someone who was intrinsically motivated (i.e. someone who wanted an important job) would be 4 percentage points less likely to work in the public sector in Italy than in Finland.

Our main results control for the size of the public sector and the level of GDP. One possibility, however, is that the selection of intrinsically-motivated workers into the public sector may vary depending on the overall level of income in a country, and that to the extent that corruption is correlated with GDP, we are picking up this differential selection process. To test this, column (4) includes an additional interaction term between the level of GDP and an individual's intrinsic motivation. The coefficient on this interaction term is negative and significant, indicating that motivated workers are less likely to choose to work in the public sector in richer countries. However, the coefficient on the interaction between corruption and an individual's intrinsic motivation remains negative and statistically significant at the 10 per cent level. Finally, as a further robustness check, we run separate regressions on the richest and poorest 50 per cent of countries (results reported in columns (5) and (6)). In this case, the magnitude of the coefficients on the interaction term increases compared to the pooled regression, although it is not statistically significant in the sample of poor countries.

5. Conclusions

This paper has presented new evidence on the extent of worker motivation in the public sector across a large sample of countries, showing that public sector workers tend to be more intrinsically motivated across a wide range of different countries. However, this is far from being a universal characteristic of public sector workers. The previous literature has emphasized the role of worker selection in explaining why there is a higher level of intrinsic motivation in the public sector. This implies that there are certain features of the public sector that can make it

more attractive to pro-socially motivated workers; the evidence here suggests that such workers are less attracted to working in a corrupt administration.

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Table 1: Summary statistics

	World Values Survey						
	Obs	Proportion Employed	Propⁿ in private	Propⁿ in public	Propⁿ in NFP	ILO Public sector	Corruption Measure (CPI)
Andorra (AN)	881	0.95	0.78	0.21	0.01		
Argentina (AR)	740	0.49	0.72	0.26	0.02	0.16	7.1
Australia (AU)	965	0.78	0.69	0.25	0.06	0.16	1.3
Brazil (BR)	1,225	0.41	0.67	0.27	0.05		6.7
Britain (GB)	725	0.66	0.71	0.25	0.04	0.2	1.4
Bulgaria (BU)	706	0.60	0.71	0.29	0.00	0.29	6
Burkina Faso (BF)	1,223	0.35	0.48	0.27	0.25		6.8
Canada (CA)	1,503	0.68	0.69	0.28	0.03	0.19	1.5
Chile (CH)	770	0.54	0.82	0.13	0.05	0.15	2.7
China (CN)	1,705	0.24	0.57	0.42	0.01		6.7
Cyprus (CY)	870	0.65	0.74	0.23	0.03	0.18	4.4
Egypt (EG)	2,697	0.38	0.55	0.44	0.01		6.7
Ethiopia (ET)	1,330	0.50	0.67	0.29	0.05		7.6
Finland (FI)	724	0.66	0.57	0.41	0.03	0.27	0.4
France (FR)	720	0.68	0.68	0.28	0.04	0.29	2.6
Georgia (GE)	1,112	0.40	0.59	0.32	0.09	0.21	7.2
Germany (DE)	1,306	0.62	0.56	0.22	0.21	0.15	2
Ghana (GH)	1,278	0.64	0.83	0.12	0.05		6.7
India (I)	1,736	0.45	0.39	0.17	0.44		6.7
Indonesia (IN)	1,766	0.49	0.67	0.30	0.03		7.6
Iran (IR)	2,268	0.43	0.64	0.31	0.04	0.19	7.3
Italy (IT)	773	0.54	0.70	0.27	0.03	0.15	5.1
Japan (JA)	796	0.71	0.82	0.15	0.03	0.08	2.4
Malaysia (MY)	977	0.66	0.74	0.18	0.08	0.17	5
Mali (MA)	1,197	0.32	0.34	0.26	0.40		7.2
Mexico (ME)	1,289	0.50	0.68	0.23	0.08	0.12	6.7
Moldova (MO)	821	0.62	0.56	0.43	0.01	0.27	6.8
Morocco (MC)	1,066	0.90	0.89	0.10	0.01	0.1	6.8
Netherlands (NE)	741	0.61	0.66	0.26	0.08		1.3
Norway (NO)	778	0.85	0.62	0.38	0.01	0.35	1.2
Peru (PE)	1,246	0.27	0.66	0.29	0.05		6.7
Poland (PO)	730	0.58	0.61	0.38	0.01	0.27	6.3
Romania (RO)	1,253	0.54	0.66	0.34	0.00	0.21	6.9
Russia (RU)	1,513	0.72	0.55	0.40	0.06	0.33	7.5
Rwanda (RW)	1,265	0.63	0.79	0.14	0.07		7.5
South Africa (SA)	2,278	0.54	0.71	0.19	0.10		5.4
South Korea (SK)	1,026	0.51	0.62	0.27	0.10		4.9
Serbia (SE)	1,040	0.57	0.58	0.42	0.00		7
Slovenia (SL)	762	0.63	0.63	0.35	0.02	0.29	3.6
Spain (SP)	809	0.58	0.82	0.18	0.00	0.15	3.2
Sweden (SV)	720	0.83	0.59	0.40	0.01	0.34	0.8
Switzerland (SW)	797	0.83	0.65	0.31	0.04		0.9
Taiwan (TA)	982	0.78	0.84	0.15	0.01		4.1
Thailand (TH)	1,235	0.71	0.35	0.16	0.49	0.09	6.4
Trinidad Tobago (TT)	763	0.62	0.68	0.30	0.01	0.27	6.8
Turkey (TU)	1,167	0.40	0.81	0.18	0.01	0.14	6.2
Ukraine (UK)	784	0.67	0.41	0.53	0.06	0.22	7.2
Uruguay (UR)	668	0.50	0.80	0.18	0.01	0.16	3.6
USA (US)	907	0.66	0.70	0.19	0.11	0.16	2.7
Vietnam (VI)	1,199	0.25	0.36	0.61	0.03		7.4
Zambia (ZA)	1,203	0.38	0.54	0.39	0.07		7.4
Total	**57,035**	**34,789**	**20,572**	**8,569**	**2,331**		

Table 2: Self-reported motivation among public/private sector workers

Ordered in terms of the difference in the work motivation variable between the public and private sectors

	Proportion who are intrinsically motivated, according to different indicators								
	(1) Work motivation			(2) Life motivation			(3) Active charity/env org.		
Country	**Public**	**Private**	**Diff**	**Public**	**Private**	**Diff**	**Public**	**Private**	**Diff**
Britain	0.467	0.289	0.178	0.642	0.583	0.059	0.308	0.195	0.113
Andorra	0.602	0.436	0.166	0.729	0.758	-0.029	0.192	0.156	0.036
USA	0.384	0.226	0.158	0.509	0.530	-0.021	0.241	0.162	0.080
Norway	0.583	0.447	0.136	0.719	0.700	0.019	0.149	0.086	0.062
Canada	0.496	0.361	0.135	0.785	0.729	0.056	0.340	0.235	0.105
Peru	0.423	0.298	0.125	0.663	0.631	0.033	0.265	0.133	0.133
Turkey	0.313	0.194	0.119	0.663	0.560	0.102	0.036	0.026	0.010
Finland	0.357	0.247	0.110	0.418	0.424	-0.006	0.128	0.055	0.072
Germany	0.266	0.160	0.106	0.540	0.385	0.155	0.078	0.044	0.035
Sweden	0.544	0.441	0.104	0.755	0.708	0.048	0.109	0.066	0.043
Chile	0.222	0.129	0.093	0.698	0.651	0.047	0.204	0.091	0.113
China	0.230	0.145	0.086	0.676	0.601	0.075	0.143	0.064	0.079
Argentina	0.260	0.177	0.083	0.745	0.641	0.104	0.094	0.065	0.029
Iran	0.375	0.292	0.083	0.582	0.562	0.020	0.180	0.130	0.050
Vietnam	0.133	0.075	0.058	0.425	0.453	-0.027	0.202	0.150	0.053
Ethiopia	0.096	0.050	0.046	0.463	0.346	0.117	0.234	0.134	0.100
Indonesia	0.213	0.169	0.044	0.717	0.590	0.126	0.322	0.253	0.068
Thailand	0.124	0.082	0.042	0.316	0.276	0.040	0.161	0.160	0.001
Serbia	0.161	0.120	0.041	0.541	0.489	0.052	0.156	0.101	0.054
Australia	0.355	0.315	0.040	0.516	0.462	0.054	0.160	0.127	0.033
Japan	0.293	0.253	0.040	0.185	0.192	-0.006	0.012	0.009	0.003
Rwanda	0.202	0.162	0.040	0.574	0.541	0.033	0.284	0.154	0.131
Uruguay	0.136	0.099	0.036	0.754	0.562	0.192	0.115	0.048	0.066
Ukraine	0.158	0.126	0.032	0.585	0.522	0.063	0.043	0.014	0.029
Mexico	0.336	0.306	0.029	0.711	0.687	0.024	0.233	0.128	0.105
Burkina Faso	0.088	0.059	0.029	0.598	0.604	-0.006	0.070	0.063	0.007
Georgia	0.160	0.137	0.023	0.653	0.675	-0.022	0.007	0.000	0.007
Romania	0.101	0.078	0.022	0.687	0.555	0.132	0.028	0.005	0.023
Taiwan	0.214	0.193	0.021	0.652	0.610	0.042	0.107	0.071	0.036
India	0.101	0.081	0.020	0.496	0.513	-0.016	0.323	0.184	0.139
France	0.279	0.261	0.018	0.584	0.553	0.031	0.161	0.117	0.043
Morocco	0.134	0.119	0.015	0.515	0.434	0.082	0.071	0.021	0.050
Poland	0.184	0.169	0.015	0.669	0.547	0.122	0.061	0.034	0.027
Ghana	0.101	0.086	0.015	0.636	0.580	0.057	0.333	0.127	0.206
Cyprus	0.162	0.149	0.013	0.838	0.763	0.075	0.131	0.061	0.069
Malaysia	0.111	0.100	0.011	0.293	0.288	0.005	0.147	0.048	0.099
Netherlands	0.328	0.317	0.010	0.708	0.595	0.114	0.108	0.074	0.035
Brazil	0.283	0.273	0.010	0.790	0.828	-0.039	0.232	0.142	0.090
Russia	0.122	0.115	0.007	0.402	0.366	0.036	0.009	0.023	-0.014
Egypt	0.095	0.090	0.005	0.709	0.649	0.060	0.047	0.016	0.031
Zambia	0.149	0.145	0.003	0.540	0.544	-0.004	0.173	0.135	0.038
Switzerland	0.524	0.521	0.003	0.602	0.585	0.017	0.155	0.142	0.014
Trinidad and	0.343	0.340	0.003	0.708	0.691	0.017	0.215	0.169	0.046
Italy	0.313	0.319	-0.007				0.123	0.072	0.050
Moldova	0.115	0.122	-0.007	0.488	0.449	0.040	0.074	0.045	0.028
Slovenia	0.117	0.125	-0.008	0.186	0.180	0.006	0.055	0.024	0.031
South Africa	0.078	0.089	-0.012	0.324	0.278	0.046	0.016	0.012	0.005
Spain	0.138	0.153	-0.015	0.632	0.647	-0.015	0.115	0.049	0.066
Bulgaria	0.092	0.110	-0.018	0.517	0.470	0.047	0.033	0.013	0.020
South Korea	0.261	0.297	-0.036	0.646	0.601	0.046	0.120	0.102	0.019
Mali	0.072	0.164	-0.092	0.724	0.648	0.076	0.364	0.264	0.100

Table 3: Country-level regression coefficients (bold denotes significant at 10% level)

Dependent variable = individual works in the public sector (0/1)

Country	Age	Female	Degree	Want to do imp job	Imp to help others	Active in charity/ env org.	Active in sports
Andorra	**-0.002**	**0.060**	**0.234**	**0.070**	-0.017	0.042	**0.050**
Argentina	**0.011**	**0.083**	0.063	0.080	0.071	0.039	-0.093
Australia	**0.005**	**0.185**	**0.154**	-0.018	0.018	0.012	0.034
Brazil	**0.005**	**0.195**	**0.244**	-0.003	-0.061	0.064	**0.116**
Britain	0.003	**0.180**	**0.154**	**0.099**	0.033	**0.082**	0.013
Bulgaria	**0.009**	**0.101**	**0.220**	-0.059	0.002	0.104	-0.237
Burkina Faso	-0.004	0.091	**0.473**	0.069	-0.026	0.013	**0.282**
Canada	**0.003**	**0.118**	**0.193**	**0.075**	**0.055**	**0.073**	0.020
Chile	0.000	**0.073**	**0.108**	0.063	0.012	**0.107**	-0.027
China	**0.012**	0.007	**0.331**	**0.115**	0.039	**0.150**	**0.184**
Cyprus	0.002	-0.030	**0.189**	-0.024	0.058	**0.137**	-0.008
Egypt	**0.011**	**0.307**	**0.173**	-0.026	**0.073**	**0.223**	0.004
Ethiopia	**-0.006**	**0.126**	**0.321**	0.083	**0.085**	**0.101**	**0.102**
Finland	**0.006**	**0.282**	**0.250**	0.039	-0.013	0.119	0.041
France	**0.006**	0.050	**0.277**	-0.049	0.027	0.062	0.060
Georgia	0.000	**0.282**	**0.225**	0.043	-0.045	0.350	**0.752**
Germany	-0.001	**0.152**	**0.289**	0.055	**0.087**	0.064	**0.069**
Ghana	0.001	-0.036	**0.457**	-0.011	0.021	**0.129**	**0.071**
India	**0.006**	**0.141**	**0.394**	0.004	**-0.091**	0.080	**0.119**
Indonesia	**0.012**	**0.069**	**0.326**	0.011	**0.084**	0.040	0.056
Iran	**0.005**	**0.086**	**0.381**	0.016	0.035	**0.076**	**0.063**
Italy	**0.008**	**0.165**	**0.212**	-0.022		0.100	-0.059
Japan	0.001	0.050	**0.104**	0.021	-0.008	0.091	0.052
Malaysia	**0.006**	0.042	**0.161**	-0.014	-0.001	**0.219**	**0.085**
Mali	0.004	**0.219**	**0.338**	**-0.196**	0.085	0.097	**0.146**
Mexico	**0.003**	**0.156**	**0.270**	-0.009	-0.022	**0.116**	**0.074**
Moldova	**0.007**	**0.252**	0.000	-0.053	-0.014	0.087	0.011
Morocco	0.000	-0.022	**0.272**	-0.002	0.029	**0.147**	0.049
Netherlands	0.002	**0.083**	-0.088	0.016	**0.081**	0.076	-0.011
Norway	**0.005**	**0.263**	**0.223**	0.046	0.019	0.057	-0.056
Peru	**0.009**	0.008	**0.240**	0.074	-0.012	**0.124**	**0.135**
Poland	**0.004**	0.073	0.102	0.008	**0.113**	0.177	**0.214**
Romania	**0.008**	**0.064**	**0.230**	-0.016	0.035	**-0.225**	-0.036
Russia	**0.008**	**0.125**	**0.095**	0.042	**0.094**	**0.311**	-0.056
Rwanda	**-0.002**	0.001	**0.704**	0.033	0.005	**0.096**	**0.090**
Serbia	0.001	0.038	**0.225**	0.041	0.024	0.057	-0.042
Slovenia	**0.004**	0.056	**0.176**	-0.044	-0.022	**0.225**	-0.012
South Africa	**0.006**	0.065	**0.196**	-0.071	0.037	0.029	0.113
South Korea	**0.007**	**0.123**	**0.251**	-0.076	0.027	0.044	-0.010
Spain	**0.006**	0.000	**0.274**	-0.020	-0.017	**0.141**	-0.028
Sweden	**0.004**	**0.305**	**0.096**	0.034	-0.003	0.087	-0.061
Switzerland	**0.003**	**0.173**	**0.158**	-0.022	-0.016	-0.002	0.014
Taiwan	**0.004**	0.018	**0.190**	-0.020	0.014	0.017	0.041
Thailand	**0.004**	**-0.131**	**0.378**	0.037	0.030	0.011	0.031
Trinidad and	**0.006**	-0.056	**0.333**	-0.003	0.003	0.022	**0.136**
Turkey	0.003	0.064	**0.249**	**0.085**	**0.066**	-0.009	0.026
Ukraine	**0.007**	0.071	0.022	0.074	0.049	0.209	0.070
Uruguay	0.003	**-0.083**	**0.257**	0.015	**0.113**	0.130	-0.013
USA	0.002	0.056	0.095	**0.129**	-0.024	**0.080**	-0.038
Vietnam	0.003	-0.051	**0.161**	0.100	-0.027	0.087	-0.021
Zambia	0.001	**0.105**	**0.216**	0.005	-0.026	0.054	-0.012
# +ive coeffs (sig)	**44 (31)**	**44 (28)**	**49 (45)**	**30 (6)**	**33 (10)**	**48 (18)**	**33 (17)**
# -ive coeffs (sig)	**7 (3)**	**7 (2)**	**1 (0)**	**21 (1)**	**18 (1)**	**3 (1)**	**18 (0)**

Table 4: Corruption and the level of intrinsic motivation in the public sector

Dependent variable = Level of intrinsic motivation in the public sector (relative to private sector)

	OLS		TSLS				
			First stage	Second stage	First stage	Second stage	Second stage
CPI	-0.0081**	-0.0059		-0.0126**		-0.0313**	-0.0298*
	(0.0033)	*(0.0070)*		*(0.0036)*		*(0.0126)*	*(0.0159)*
Diff in age	0.0003	-0.0011	0.1284	0.0007	0.1577**	0.0031	0.0016
	(0.0037)	*(0.0041)*	*(0.0816)*	*(0.0036)*	*(0.0717)*	*(0.0046)*	*(0.0062)*
Diff in educ	0.0630	0.0679	-2.7904	0.0748	-2.0550	0.0578	-0.0571
	(0.0785)	*(0.0796)*	*(1.7512)*	*(0.0760)*	*(1.4932)*	*(0.0846)*	*(0.0961)*
Diff in female	0.0440	0.0783	2.3019	0.0132	0.7282	0.0305	0.0380
	(0.0678)	*(0.0756)*	*(1.6086)*	*(0.0666)*	*(1.4647)*	*(0.0825)*	*(0.0834)*
GDP_rel_US		0.0000			-0.0342**	-0.0017*	-0.0014
		(0.0006)			*(0.0088)*	*(0.0009)*	*(0.0011)*
Govt_share		-0.0014			-0.0139	-0.0012	-0.0022
		(0.0013)			*(0.0248)*	*(0.0014)*	*(0.0020)*
Latitude			-2.3869**		-1.3479		
			(1.0816)		*(0.9846)*		
Yrs' democracy			-0.0744**		-0.0422**		
			(0.0075)		*(0.0097)*		
Gov wages							-0.0172**
							(0.0071)
F-stat			77.03		10.99		
Sargan (p-value)				0.6202		0.8891	
N	49	49	49	49	49	49	32

Notes to table:
Regressions exclude Serbia, Andorra and Columbia because of missing variables
** denotes coefficient is significant at 5%, * at 10% level
CPI = corruption perception index. 0 – 10 where 10 is most corrupt. Year: 2006. (Source: Transparency International,)
Diff refers to difference in mean characteristics between the public and private sectors
GDP_rel_US = GDP relative to US, US = 100. Year: 2006. (Source: Penn World Tables)
Govt Share = Government share of total output . Year: 2006. (Source: Penn World Tables)
Latitude = absolute latitude, re-scaled from 0 to 1 (Source: Central Intelligence Agency)
Years' democracy = number of years since country became a democracy. Year: 2006. (Source: Database of Political Institutions)
Gov wages = Government wages, relative to manufacturing. Year: 1995. (Source: World Bank)

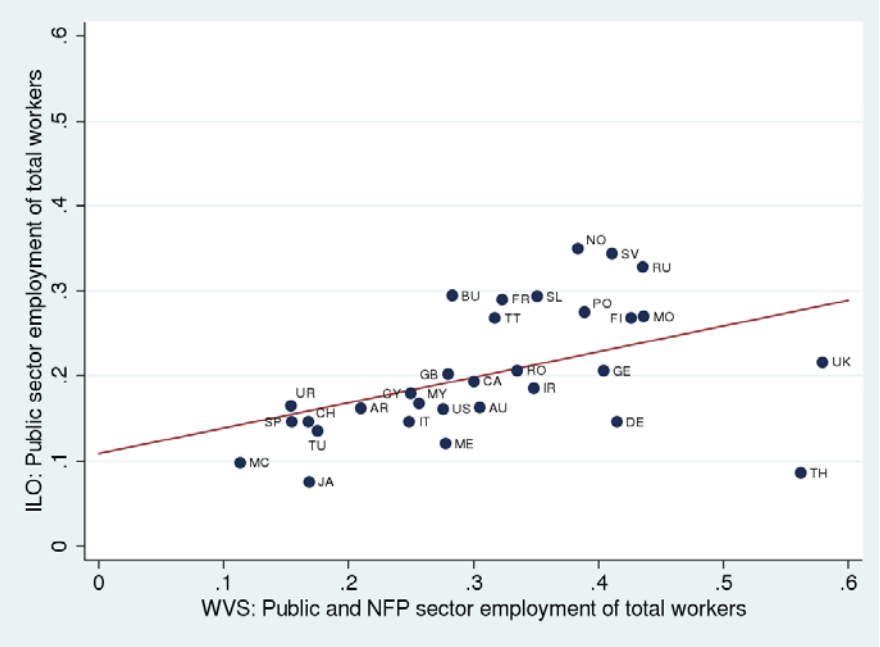
Table 5: Corruption and selection into the public sector, IV regression results

Dependent variable = individual works in the public sector (0/1)

	Full sample				Rich countries	Poor countries
	(1)	(2)	(3)	(4)	(5)	(6)
CPI	0.0082	0.0111**	-0.0030	0.0280	-0.0017	0.0367
	(0.0051)	*(0.0055)*	*(0.0183)*	*(0.0202)*	*(0.0123)*	*(0.0333)*
Intrinsically motivated	0.0218**	0.0670**	0.0677**	0.0498**	0.0709**	0.1368
	(0.0091)	*(0.0217)*	*(0.0207)*	*(0.0180)*	*(0.0154)*	*(0.0901)*
Intrinsically motivated * CPI		-0.0101**	-0.0091**	-0.0057*	-0.0122**	-0.0199
		(0.0041)	*(0.0041)*	*(0.0034)*	*(0.0039)*	*(0.0140)*
Intrinsically motivated * GDP				-0.0004*		
				(0.0002)		
Age	0.0046**	0.0046**	0.0047**	0.0047**	0.0045**	0.0049**
	(0.0007)	*(0.0007)*	*(0.0007)*	*(0.0007)*	*(0.0006)*	*(0.0013)*
Degree	0.2240**	0.2236**	0.2259**	0.2284**	0.1708**	0.2969**
	(0.0180)	*(0.0018)*	*(0.0168)*	*(0.0162)*	*(0.0132)*	*(0.0218)*
Female	0.0927**	0.0920**	0.0931**	0.0934**	0.1105**	0.0727*
	(0.0160)	*(0.0159)*	*(0.0164)*	*(0.0166)*	*(0.0190)*	*(0.0268)*
GDP_rel_US			-0.0012	0.0013	-0.0002	-0.0008
			(0.0016)	*(0.0015)*	*(0.0013)*	*(0.0029)*
Govt_share			0.0019	0.0017	0.0142**	-0.0004
			(0.0026)	*(0.0026)*	*(0.0048)*	*(0.0025)*
N	27451	27451	27451	27451	13734	13717

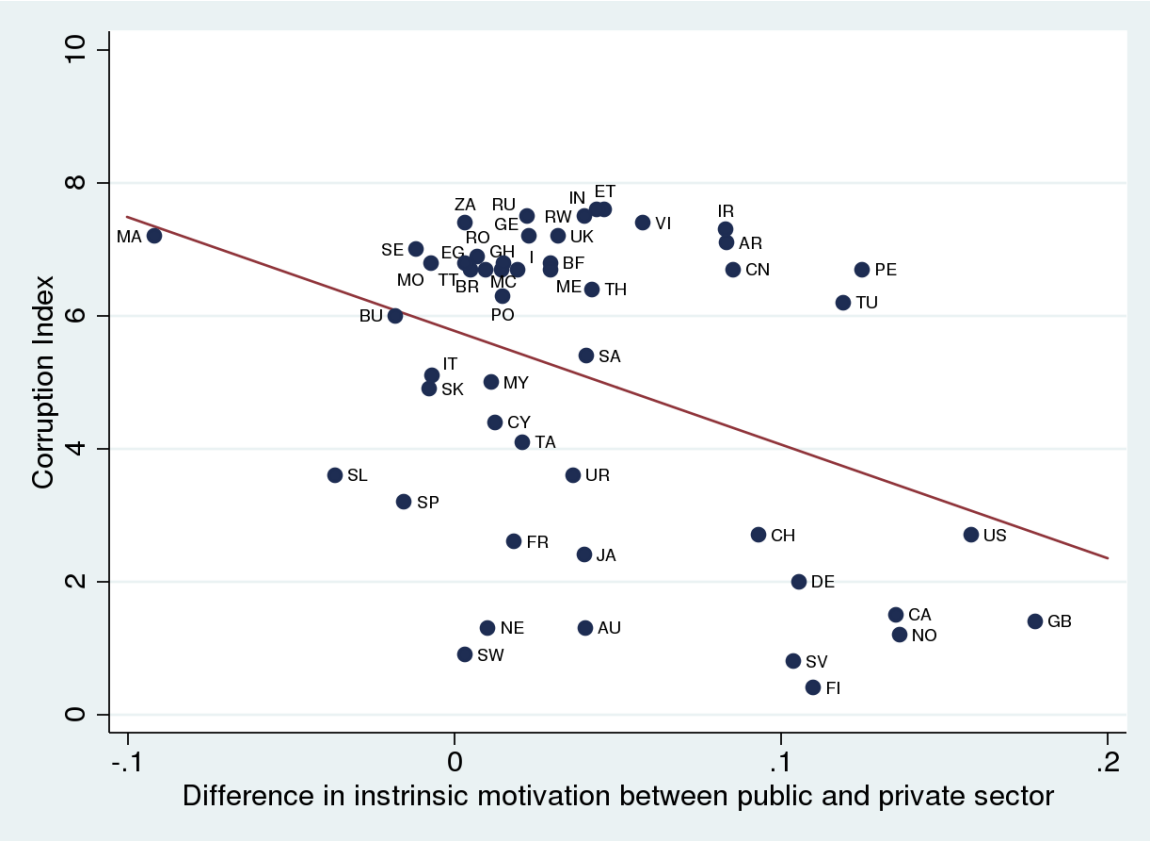
Notes to table:
Regressions exclude data from Serbia, Andorra and Columbia because of missing variables
** denotes coefficient is significant at 5%. Standard errors are clustered at the country level
CPI = corruption perception index. 0 – 10 where 10 is most corrupt. Year: 2006. (Source: Transparency International)
GDP_rel_US = GDP relative to US, US = 100. Year: 2006. (Source: Penn World Tables)
Govt Share = Government share of total output. Year: 2006. (Source: Penn World Tables)

Figure 1: Employment in the public sector – WVS and ILO comparison



Notes:
Line indicates best fit from a linear regression
See Table 1 for details of country names

Figure 2: Intrinsic motivation and Corruption



Notes:
Line indicates best fit from a linear regression
See Table 1 for details of country names