

Worker Effort and Organisational Commitment in OECD Countries

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Abstract

The degree to which workers identify with their firms, and how hard they are willing to work for them, are key variables in understanding firm productivity and individual labour-market outcomes. This paper uses repeated cross-section ISSP data from 1997 and 2005 to consider movements in a number of measures of worker commitment. There are enormous cross-country differences in the three measures of commitment analysed here, that are difficult to explain using individual- or job-related characteristics. These do, however, correlate with some country-level variables. While unemployment and inflation reduce commitment to an extent, economic and civil liberties are associated with higher levels of worker effort and pride in the firm.

Keywords: Commitment, Reciprocity, Well-being.

JEL Codes: J21, J28, J3, J6, J81, L26.

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1. Introduction

There is a literature without number dealing with the issues of employee performance and worker motivation. We here consider something that has perhaps attracted less empirical attention, at least in Economics: the commitment that workers express vis-à-vis their employer. Workers' organisational commitment can be defined as the relative strength of an individual's identification with and involvement in a particular organization (Bishop *et al.*, 2000), or as a mixture of a) a strong belief in and acceptance of the organization's goals and values, b) a willingness to exert considerable effort on behalf of the organization, and c) a strong desire to maintain membership in the organization (Mowday *et al.*, 1979).

While research on worker productivity has identified a number of important factors, it is undoubtedly true that the largest part of workers' effort, and thus their productivity at work, remains to be explained. Understanding the nature of the relationship between the worker and the firm would seem to be important in this context. In addition to any positive effect on firm outcomes (productivity, quits), a feeling of commitment at work is also likely to be important in the context of worker well-being. In addition to simply being satisfied at work, individuals may value the interest, recognition and competence involved in their job.¹ Some of the results that we consider below will indeed show that worker commitment and job satisfaction are not synonyms.

In this context, instead of appealing to information on wages, incentive packages, hours of work, or other observable characteristics of the work "package" to describe the quality of the firm-worker relationship, we here consider novel information, currently available for a

¹ This bears some parallels to the distinction between hedonic measures of well-being and eudaimonic measures, where the latter refer to elements such as mastery, relations with others, self-acceptance and purpose. The recent third wave of the European Social Survey contained both types of measures (see Huppert *et al.*, 2009).

number of OECD countries at three different points in time, on the degree of identification that workers report with respect to their firms. The approach taken will thus be subjective: to measure commitment, I will use the answers given by individuals to questions asking them explicitly to evaluate the extent to which they identify with their firm.

Although there is nothing like a consensus in Economics about the usefulness of such subjective measures, it is fair to say that it is not otherwise immediately obvious how worker commitment could be measured otherwise. A defence of subjective measures has equally been mounted by showing that they are able to predict individuals' future behaviours. A flourishing literature in Psychology has examined the links between measures of job satisfaction or employee engagement, on the one hand, and firm performance on the other (where this latter includes profitability, productivity, turnover and absenteeism): see, for example, Patterson *et al.* (2004) and the meta-analyses in Harter *et al.* (2002 and 2006) and Judge *et al.* (2001). One criticism of subjective questions is that the answers to them are so coloured by individual idiosyncracies as to render the answers incomparable in cross-section data. However, the fact that observable behaviours can be predicted from such cross-section distributions suggests that the latter do contain at least a certain amount of comparable information.

The current paper addresses the issue of worker commitment by providing a systematic analysis of three related questions that are found in the International Social Survey Programme (ISSP) data. The paper is structured as follows. The next section presents the ISSP commitment data, and Section 3 carries out regression analyses, relating commitment scores to a standard set of individual controls, plus country and year dummies. The coefficients on the year dummies are both large and very significant. Section 4 sets itself the task of trying to explain why worker commitment is so different between countries, and attempts to provide an answer via additional individual-, job- and macro-level variables. Finally, Section 5 concludes.

2. Measuring Worker Commitment

This section covers the general issue of worker commitment to their employer, analysed using repeated cross-section data over a number of countries. The data here come from two waves of the International Social Survey Programme (ISSP: see <http://www.issp.org/>). Many different countries are present in the ISSP datasets, with the number of countries tending to grow over time. The analysis on worker commitment is based on the OECD countries found in the “Work Orientations” waves of the ISSP. These took place in 1989, 1997 and 2005, and contain a great deal of both objective and subjective cross-country information about individuals, the types of jobs that they do, and (crucially for the exercise at hand) a large number of subjective evaluations of different aspects of their job. Unfortunately, in the context of job commitment, there is no consistent series of questions asked over all three of the waves. We here choose to analyse workers' answers to questions on workers being willing to exert discretionary effort to help their firm, being proud of their firm, and being ready to turn down higher wages to stay there. These are available with the same wording in the 1997 and 2005 ISSP waves.² A related discretionary effort question, but differently-worded, appears in the 1989 and 1997 waves. Table 1 shows the distribution of OECD countries, together with the number of employees interviewed, in these three Work Orientation waves of the ISSP.³ There are 18 OECD countries that appear in at least one of the waves; 15 appear in both the 1997 and 2005 waves Italy, the Netherlands and Poland are present in the 1997 dataset, but not that of 2005.

² A related question, but differently-worded, appears in the 1989 wave.

³ The ISSP samples were mostly stratified, and designed to be representative of adults (aged 18 or over) living in non-institutional accommodation. The mode of administration was most often face-to-face. There are a number of differences between countries in this respect. Details regarding the questionnaire, sampling, and data collection are available in the Study Monitoring Report for each ISSP wave. That for 2005, for example, is available via the following web page: <http://www.gesis.org/en/services/data/survey-data/issp/modules-study-overview/work-orientations/2005/>.

The ISSP Work Orientations modules contain a number of questions that might be thought to inform us about worker commitment and feelings of reciprocity relative to the employer. The three main questions that we shall employ here appear in both the 1997 and 2005 waves of the ISSP. Workers are asked to what extent they agree or disagree with a number of statements about their job (where it is made explicit that reference is being made to the main job were the respondent to have more than one). The first three of these statements are:

1) *“I am willing to work harder than I have to in order to help the firm or organization I work for to succeed”*.⁴

2) *“I am proud to be working for my firm or organization”*.

3) *“I would turn down another job that offered quite a bit more pay in order to stay with this organization”*.

All three of these statements are answered on a five-point qualitative scale (*Strongly Agree, Agree, Neither Agree nor Disagree, Disagree, Strongly Disagree*). In what follows we will sometimes assign these five answers the values 5 through 1 respectively, so that higher values reflect a greater amount of worker commitment. These questions pick up information on workers' commitment to their jobs that would seem to be extremely difficult to obtain by any other means. As such, we think that they are worthy of systematic analysis.

The simple distribution of these three variables is depicted in Table 2. The responses to the first two of the questions (which we refer to as “effort” and “pride” are very similar, with over 60 percent agreeing with the proposition. The third question might be thought of as asking individuals to put a price on this reciprocity, by refusing a job with higher pay elsewhere. Here the replies are less positive, with across the three questions. Less than thirty

⁴ This question also appears in the survey of 30,000 employees of a large US multinational manufacturing firm over 19 countries in Freeman *et al.* (2008). The question is similar to variables used in Management to capture organizational commitment: see Jaworski and Kohli (1993). It could also, of course, reflect the employee's effort to prevent the firm going bankrupt; however, even in this context, employees provide costly effort in order to improve the firm's outcome.

percent of respondents agree that they would act this way. The modal response is “*Agree*” for the first two questions, and “*Disagree*” for the third. This is reflected in the average replies, when we assign cardinal values of one to five to the responses in Table 2, which are 3.5, 3.7 and 2.6 respectively.

As well as the general distribution of these variables, we are also interested in their distribution over time and space. Table 3 addresses the first of these issues by reporting the (weighted) percentage of respondents who “*Agree*” or “*Strongly Agree*” with the three statements separately by sex and by year. These values are shown for the 15 countries OECD which participated in both the 1997 and 2005 waves of the ISSP. The asterisks show whether the changes from one ISSP wave to the next are significant.

There are some significant differences in this table, but overall the changes over time do not tell a particularly striking story. The percentage who agree that they would turn down another job that offered quite a bit more pay has increased for both men and women between 1997 and 2005. The percentage proud of their firm increased slightly, but only significantly (at the ten per cent level) for women. However, the percentage saying that they work harder than they have to help their firm fell for both sexes, and significantly so for men. The last line of the table shows movements in overall job satisfaction. All employees in the ISSP are asked “*How satisfied are you in your (main) job?*”? Answers are on a one-to-seven scale, where one means completely dissatisfied, and seven means completely satisfied. As analysed in Clark (2009), the percentage reporting high job satisfaction (very or completely satisfied on the one-to-seven scale) rose significantly by three percentage points for men, but only insignificantly so for women.

Table 4 presents the distribution of worker commitment by the fifteen OECD countries that are available in both the 1997 and 2005 waves of the ISSP. Perhaps in contrast to the numbers in Table 3, here there are very sharp contrasts indeed. With regard to the provision of discretionary effort, the average score over OECD countries is 60%. At the top of the scale

almost 80% of American employees agree that they are willing to work harder than they have to in order to help the firm. There then follows a group of countries at around the 65-70% mark, including a number of other Anglophone countries.⁵ At the other end of the distribution, both Spain and Sweden have scores of under 50%, and France is a notable outlier, with a score of less than 25%.⁶

The distribution with respect to being proud of one's job is somewhat tighter, but there is still almost a two to one difference between the top-ranked and bottom-ranked countries. The USA again tops the ranking, with a figure of almost 80%, whereas the bottom three places are occupied by the Czech Republic, Hungary and France. The percentage who would "*turn down a job that offered quite a bit more pay in order to stay with this organization*" is highest in Japan and Portugal (both over 40%), and lowest in Hungary Sweden and France (under 16%).

In the last column of Table 4, the cross-country distribution of overall job satisfaction mirrors to some extent the pattern of worker commitment. The lowest job satisfaction countries are (in order) Hungary, the Czech Republic, Japan and France, while the highest job satisfaction countries (with over 50% of workers reporting job satisfaction of 6 or 7 on the 1-7 scale) are the USA, Switzerland and Denmark.

The numbers in Table 4 are based on the raw data, describing the experience of the average person in the economy. In terms of the time series, this average person is not the same over time. Equally, cross-country differences in average commitment may well reflect composition effects (with respect to the age, sex, education etc. of the workforce) rather than any underlying *ceteris paribus* difference in the way workers feel about their firm between countries. A first key empirical question is then the extent to which the time and country effects described in Tables 3 and 4 can be explained by standard demographic variables. This

⁵ Pfeffer (2007, p. 116) suggests that "Job attitudes, employee engagement, and work behaviour... are dismal in the United States and the United Kingdom, and possibly elsewhere as well". According to Table 4, they are actually much worse elsewhere in this sample of OECD countries.

⁶ If we calculate the average score on the 1-5 scale, the US has an average score of 4, with Spain, Sweden and France having scores of 3.1, 3.4 and 2.7 respectively.

question is analysed in a standard way, by carrying out regression analyses of worker commitment, including individual demographic controls, as well as country and year dummies, as explanatory variables. The estimated coefficients on the year and country dummies will measure systematic differences in worker commitment, conditional on the other right-hand side variables.

A second question is, given the similarity between the country rankings in Table 4 above, whether commitment and satisfaction are pretty much synonyms for each other. We will investigate this possibility by comparing the country rankings of worker commitment with and without controlling for overall job satisfaction.

The regression analysis will be based on two separate specifications: one without and one with real monthly earnings⁷ and weekly hours of work on the right-hand side. The latter analysis therefore asks whether an employee with identical hours of work and real earnings would report different commitment scores in different countries. This exercise isolates the role of earnings and hours in explaining cross-country differences in worker commitment. The regression analyses are presented in Section 3 below.

3. Worker Commitment: Regression Analysis

The regression results for worker commitment are presented in Tables 5A and 5B: the former does not control for individual worker earnings and hours, while the latter does. All of

⁷ Respondent's monthly net earnings, converted to US dollars using Purchasing Power Parities from the OECD (<http://www.oecd.org/dataoecd/61/56/39653523.xls>). All figures are expressed in real 1997 values by deflating for US CPI inflation (<ftp://ftp.bls.gov/pub/special.requests/cpi/cpiiai.txt>). The following countries have their gross earnings converted to net:

- 1989 - GB, USA, Norway;
- 1997 - GB, USA, Norway, Sweden, New Zealand, Italy, Canada, Japan, France, Denmark, Switzerland
- 2005 - GB, USA, Norway, Sweden, New Zealand, Canada, Japan, France, Denmark, Switzerland.

These conversions are all carried out using the OECD tax database

(http://stats.oecd.org/OECDStat_Metadata/ShowMetadata.ashx?Dataset=AWCOMP_OLD&ShowOnWeb=true&Lang=en). This provides data for 1997 to 2004. The 1997 tax rates were used to convert the 1989 and 1997 ISSP data from gross to net as necessary, and that from 2004 to convert the 2005 ISSP data.

the regressions include a standard set of controls, including sex, age, marital status, education, and year and country dummies. Both tables are divided up into five columns. The first three show the regression results for the three commitment questions outlined in Section 2; these are estimated by ordered probit. The fourth attempts to summarise the information in these first three columns by presenting the regression results for an OLS regression on the first principal component of these three commitment variables. Finally, for comparison purposes, the last column shows the results of the estimation of a “standard” job satisfaction equation via ordered probit techniques.

The estimated coefficients on the standard control variables in Table 5A show that men say that they are more willing to work harder for their firm, and this drives the estimated coefficient in the first principal component positive and significant as well. The effect of age on worker commitment is positive and monotonic across the age groups. The married equally report higher scores in all of the commitment regressions.⁸ Equally, years of education is positively and significantly correlated with worker commitment in Table 5A (except for reporting that they will turn down higher pay to stay with their current firm).

Controlling for earnings and hours of work in Table 5B changes some of these correlations. That with education becomes weaker, suggesting that part of the partial correlation with education in Table 5A reflected the fact that the better-educated earn more. Equally, the coefficient on “Male” is more negative in Table 5B than in Table 5A, again suggesting that part of males’ higher commitment levels in the latter reflects their higher earnings.

The estimated coefficients on earnings itself in Table 5B is positive and significant: workers feel more reciprocity towards their firm when they are paid more. While this might be thought of as a vindication of efficiency wage theory, it is perhaps worth bearing in mind that the standard model requires higher wages in order to limit worker shirking. The

⁸ There is a possibility of reverse causality here, in that those who are able of being more reciprocal in general may be so with respect to their firm, and also have a better chance of getting (and staying) married.

dependent variable in column 1 is rather about the supply of discretionary effort, beyond what is required, where required effort probably includes that which is necessary to avoid being sacked. Equally, it is not clear whether the higher wages in an efficiency-wage model would be associated worker pride in their job, whereas this is what is suggested in column 2 of Table 5B.⁹

The correlations with respect to hours of work (per week) are also all significant, and are positive: those with greater reported levels of reciprocity work longer hours of work per week. Although it is tempting to see this result as being at odds with that regarding pay, there is probably a reasonable amount of reverse causality present here: those who feel better about working for the firm are willing to work longer hours for that firm.

With respect to the time profile of worker commitment, inasmuch as we can measure it with data from only two ISSP waves, this is largely positive in both Tables 5A and 5B. To this extent, it has followed the upturn in job satisfaction noted in Clark (2009).

All of the estimated country coefficients should be read as relative to Denmark, which is the omitted category. Perhaps the most remarkable finding with respect to the country dummies in these tables is how similar they are to those found in the raw data in Table 4. With respect to worker effort (in the first column), the bottom four countries and five of the top six countries in Table 5A are the same as in Table 4; in Table 5B this holds for the bottom five and for the top seven countries.

The same story holds in columns 2 and 3, which show the results from ordered probit regression of feeling proud of one's firm. The country ranking from this regression in Table 5A is very similar to that found in Table 4, with in particular the same six countries in the

⁹ We here consider the absolute level of earnings. It is likely that individual effort and commitment to the firm depend on relative earnings as well. Clark *et al.* (2009b) provide evidence consistent with this, based on both an experimental approach and analysis of the 1997 ISSP data, and Brown *et al.* (2007) find that the worker's relative wage (own weekly wage divided by the average weekly wage by industry and occupation) is a significant predictor of worker commitment. Nagin *et al.* (2002) shows that the higher is the estimate of outside earnings, the less likely workers are to agree that the employer "cares about me", and the more likely they are to say that the employer "takes advantage of me". It would equally be of interest to consider the relationship between commitment and within-firm wage inequality, which is found to be negative in Lincoln and Kalleberg (1996).

bottom positions and Portugal and the USA at the top. Equally, with respect to the regression for turning down higher pay elsewhere in order to stay at one's firm, the bottom three and the top four countries are the same in Tables 4 and 5A.

This similarity is somewhat formalised by the test statistics at the foot of each column of Tables 5A and 5B. These show two statistics. The first tests the joint exclusion of all of the country dummies in the regression reported in the Table. The second tests the joint exclusion of all of the country dummies in a regression with only the country dummies as explanatory variables. The comparison of these two test statistics shows how much of the country pattern in the raw data (as picked up in the second test statistic) is explained by the additional variables introduced into the regressions in Tables 5A and 5B. A quick glance at the figures shows that the two statistics are actually very similar in size. In other words, the demographic controls that we have introduced here actually explain very little of the cross-country distribution of reciprocity.

The next question we address is whether we gain more from the analysis of these three specific reciprocity questions than we would have learnt from a more general question regarding the individual's evaluation of their job. This might be thought of as related to the debate over top-down and bottom-up measures of well-being. If the former applies, then any subjective evaluation of a work domain will be coloured by the individual's overall evaluation of the job.¹⁰

To carry out this analysis, we construct dummy variables for the seven different job satisfaction values reported by individuals in the ISSP dataset. Six of these are then introduced as additional right-hand side variables in the regressions documented in Tables 5A and 5B. The results¹¹ of these regressions first underline that the commitment measures are indeed strongly correlated with overall job satisfaction. All of the six job satisfaction

¹⁰ And indeed the individual's evaluation of their job may be coloured in the same way by their overall evaluation of their life.

¹¹ Which are not shown here for space reasons, but which are available on request.

dummies are significant in each regression, with t-statistics that are typically of around ten or over. Second, the introduction of job satisfaction does not drive the estimated country coefficients to zero, so that the cross-country distribution of reciprocity is not just the cross-country distribution of job satisfaction. Last, the shape of this cross-country distribution is almost unchanged by the introduction of controls for job satisfaction. The Pearson correlation between the estimated coefficients on the country dummies in Table 5A and those from the equivalent regression including job satisfaction dummies is over 0.9 for all three regressions; the analogous Spearman rank correlation coefficients are also extremely high.¹² The same analysis can be carried out with respect to the regressions that control for earnings and hours of work, without any change in the qualitative conclusions regarding the shape of the estimated country dummies.

The conclusion from this empirical analysis of ISSP data is then that a number of individual and job-related characteristics are correlated with worker reciprocity. There remain, however, very sharp differences in average reciprocity between OECD countries. Section 4 below concentrates on these cross-country differences and asks to what extent they are correlated with a number of individual, firm, economic and institutional variables.

4. Explaining the Country Distribution of Worker Commitment

Tables 5A and 5B above insisted above all on the sharp differences in worker reciprocity, on all three of the measures used here, between OECD countries. The regressions behind these tables controlled for a number of standard variables, such as sex, age and education. This section asks whether it is possible to find additional right-hand variables which will help to explain this distribution. This exercise is first carried out at the individual level, before moving onto a number of country-level macroeconomic and societal characteristics.

¹² Mowdray *et al.* (1979) equally insist that commitment and job satisfaction are different constructs.

i) Religion

While the regressions in Tables 5A and 5B did control for standard individual right-hand variables, we can easily imagine others that might be thought to play a role. In particular, we know that the religious are more altruistic towards other individuals (Reinikka and Svensson, 2004): can this explain the prevalence of more reciprocal attitudes towards employers? To check, we re-estimated our standard regressions adding a measure of individual religiosity. In the ISSP, individuals are asked how often they attend religious services.¹³

The estimated results on the religion variables conform with expectations: the more often the individual attends religious services, the greater is their feeling of reciprocity with respect to the firm. This holds for all three measures of worker reciprocity with respect to the firm. Religion is indeed a fairly significant predictor of reciprocity: the chi-squared statistic for the exclusion of the religion variables is significant at better than the 0.01 percent level for all three reciprocity variables. However, this significance does very little in terms of explaining the country distribution of reciprocity: the correlation coefficient between the estimated country coefficients from regressions with and without religion is greater than 0.99 for all three measures.

ii) Job Characteristics

The first job characteristic we consider is whether the firm is in the public or the private sector.¹⁴ The results here are worthy of note. Public-sector workers are very significantly less likely to say that they are willing to work harder than they have to in order

¹³ The response scale is different in 2005 to those used in 1989 and 1997. The former has been recoded to make it compatible with the latter.

¹⁴ Luechinger *et al.* (2008) provide an analysis of the public-private sector life satisfaction differential, and note that, across countries, this is lower in countries with impartial judiciaries, and higher in countries with more corruption and more red tape. Luechinger *et al.* (2009) analyse German (GSOEP), American (GSS) and European (Eurobarometer) data and suggest that public-sector workers are insulated against macro shocks. Last, Lanfranchi and Narcy (2008) analyse the job-satisfaction differential in seven European countries across the profit and not-for-profit sectors.

to help their firm or organization to succeed. However, they are significantly more likely to say that they are proud to work for their firm, and that they would be would turn down another job offering more money. One way of understanding this pattern of results is to think of workers' answers to the first question as reasserting the non-profit motive of the public sector (although another is to imagine that there may be less competitive pressure on workers in the public sector: see Delfgaauw and Dur, 2008). Be that as it may, the addition of a variable for the public sector again has very little effect on the general shape of the estimated country coefficients: as above, the correlation coefficients between the two sets of estimated coefficients on the country dummies are all greater than 0.99.

We then consider whether the individual supervises others at work or not. This variable attracts a positive and very significant estimated coefficients in all three regressions. It is of course difficult to establish causality here, as more motivated individuals may be more likely to access managerial positions. The addition of this variable does not change the shape of the estimated country dummies, however.

We last look at trade union membership. Clark and Tomlinson (2001) use data from the 1992 Employment in Britain survey, which includes a question on discretionary effort: "*How much effort do you put into your job, beyond what is required?*"? They show that this effort rises with the wage, but is lower for union members. In our data, the estimated coefficient on a dummy variable for the individual being a union member is also negative and significant in the effort equation, but insignificant in the other two equations. As for the other job characteristics, the addition of this variable in no way explains the country distribution of worker reciprocity.¹⁵

¹⁵ It would have been extremely interesting to look at worker commitment as a function of permanent/temporary employment contracts. Unfortunately this information is not available in the ISSP data. Nichols *et al.* (2009) find no effect of permanent contracts on employee trust in management. In line with some of the results mentioned in this section they also find that trust is lower for union members, and higher for managers. There is no significant difference between the private and public sectors.

iii) Macro Variables

The above two sub-sections revealed that additional individual- and job-related factors, added to the regressions in Table 5B, were important in their own right in explaining worker reciprocity, but added very little in terms of our understanding of why workers in some countries are so much more reciprocal than those in others. In this sub-section we move towards a more aggregated analysis.

We first consider the macroeconomic characteristics of unemployment, inflation and labour productivity (these are all OECD figures). We interact country with year in the reciprocity regressions, producing two separate coefficients for each country. There is no hours information for New Zealand in 1997, so that we end up with 29 country times year coefficients. These are used as dependent variables in a regression with the macroeconomic characteristics as explanatory variables.

The results are shown in Table 6. None of the three variables are correlated with the cross-country distribution of feeling proud to work in one's firm. The unemployment rate is negatively and significantly correlated with effort provision, and negatively but insignificantly correlated with turning down another job with higher pay.¹⁶ Inflation is also marginally significantly correlated with the latter, suggesting that workers pay more attention to nominal salaries in times of higher inflation. Labour productivity is not correlated with any of the measures.

Unemployment, and to a lesser extent inflation, do thus help to explain the cross-country distribution of worker reciprocity, producing R-squared values of around 25% in columns 1 and 3 of Table 6. We now ask whether other, sometimes less well-known, country characteristics might be important. As with the variables in Table 7, we can make no

¹⁶ This is consistent with the fact that Managers in firms where layoffs had taken place report that these had deleterious effects on the remaining workers' productivity, morale and commitment to the firm (Brockner, 1988 and 1992). Equally, Hartley *et al.* (1991) note that those who perceived increasing job insecurity also reported lower job satisfaction, reduced organisational commitment and trust in management, resistance to change and deteriorating industrial relations.

watertight claim as to causality here: we are identifying variables with which the conditional¹⁷ cross-country distribution of commitment is correlated. The country descriptive data here is the same as that used in Helliwell and Huang (2008).

The results in Table 7 are necessarily only fairly sketchy, due to a number of missing observations. It can be seen that worker commitment is to an extent higher in larger countries. Worker effort is also higher when there is more wage and price freedom (according to the Heritage/Wall Street wages and prices freedom index: <http://www.heritage.org/>). As in Table 6, feelings of pride in one's firm are less well-explained (in terms of the R^2) than are the other two commitment measures. Pride is significantly higher in countries which have a higher Civil Liberties score (this latter is the Freedom House index rescaled to lie between zero and one: <http://www.freedomhouse.org/>). Finally, turning down higher pay in order to stay in the current job is negatively correlated with the fiscal burden of government.

Again, these results are not conclusive as to causality. However, they do show that the distribution of worker commitment across countries is not only correlated with macro-economic outcomes, but also with some institutional and social variables describing how society is organised.

5. Conclusion

This paper has analysed the distribution of three different measures of organisational commitment over 15 OECD countries in 1997 and 2005. There is some evidence that commitment has broadly risen over this period, both in the raw data and in multivariate regressions. Perhaps the most striking result to come out of the latter is the enormous variation in worker organisational commitment between these 15 developed countries. A number of attempts to explain this country distribution by individual and job-related

¹⁷ Conditional on the other right-hand variables in Table 5B, that is.

characteristics were not particularly successful. In addition, job satisfaction was shown to be strongly correlated with commitment (which is perhaps unsurprising). However, again its addition as a right-hand side variable in a regression analysis did not affect the country distribution of commitment in a particularly strong way. In other words, worker organisational commitment and job satisfaction are distinct from each other.

The country distribution of commitment was shown to be affected by country-level variables. There is some evidence that higher inflation rates reduce the percentage of workers who would turn down a job that offered more pay to stay with their firm: inflation may thus make workers more sensitive to nominal returns. Greater unemployment was shown to reduce workers' discretionary effort. Poor Macroeconomic conditions then negatively affect those who directly suffer from them, but also seem to have consequences for those who remain in work. While work on British and German panel data has shown that aggregate unemployment reduces the well-being of workers (Clark, 2003, and Clark *et al.*, 2009a), we here see that it also has negative consequences on firm-employee relations.

As well as macroeconomic outcomes, other variables describing the way in which the society functions exhibited significant correlations with country-level worker commitment (although it is important to remember that causality has not been established here). In particular, measures of freedom, both in terms of wages and prices and civil liberties, were associated with greater commitment scores.

The work described here has been partial in a number of respects. First, while a number of the regressions highlighted differences in the three commitment measures analysed here, we do not necessarily know which of these three is the most important for workers. In this context, it would be of great use to appeal to panel data to see which of these three is most salient in predicting future firm quitting. Second, all of the effects estimated above are average effects. The way in which organisational commitment is correlated with the explanatory variables, such as income or education, may well differ between groups. We can

analyse this heterogeneity either by defining the groups in question *ex ante*, as in Lanfranchi and Narcy (2008), or by letting the data determine the different groups themselves, as in the latent class analysis in Clark *et al.* (2005).

Last, given the substantial literature noting the positive correlates of commitment in terms of firm performance and worker behaviour, the substantial cross-country differences in commitment remain only very partially explained. Further analysis at the aggregate level would be useful here, adding more countries and more time points, to identify better the role of institutions on worker commitment. The same exercise could also be imagined at the firm level, whereby changing the way in which the employment relation is structured at the firm level (in terms of worker representation, pay secrecy, union recognition or whatever) may have a significant impact on commitment. This kind of analysis could be carried out with survey data, or using experimental economic techniques. In any case, the analysis of worker-firm reciprocity will likely remain a fruitful area of research.

Table 1. Number of employees interviewed in OECD countries:
ISSP Module on Work Orientations. 1989, 1997 and 2005.

| | 1989 | 1997 | 2005 |
|----------------|-------------|--------------|--------------|
| West Germany | 622 | 648 | 531 |
| Great Britain | 675 | 545 | 469 |
| USA | 838 | 800 | 961 |
| Hungary | 641 | 626 | 437 |
| Netherlands | 681 | 1018 | |
| Italy | 586 | 475 | |
| Norway | 1305 | 1366 | 846 |
| Sweden | | 793 | 866 |
| Czech Republic | | 526 | 667 |
| Poland | | 564 | |
| New Zealand | | 695 | 812 |
| Canada | | 546 | 520 |
| Japan | | 607 | 428 |
| Spain | | 387 | 556 |
| France | | 700 | 1084 |
| Portugal | | 843 | 1012 |
| Denmark | | 600 | 1092 |
| Switzerland | | 1727 | 662 |
| Total | 5348 | 13466 | 10943 |

Table 2. The Distribution of Worker Commitment.

| | Work Harder to Help Firm | Proud to Work for my Firm | Turn Down Higher Pay to Stay |
|----------------------------|-------------------------------------|--------------------------------------|---|
| Strongly Agree | 18.0 | 20.9 | 9.1 |
| Agree | 42.3 | 43.9 | 17.7 |
| Neither Agree nor Disagree | 23.5 | 26.5 | 23.8 |
| Disagree | 11.1 | 6.3 | 29.5 |
| Strongly Disagree | 5.1 | 2.5 | 20.0 |

Note: Weighted Data.

Table 3. Satisfaction and Commitment over Time (%).

| | Women | | Men | |
|-----------------------------|--------------|-------------|-------------|-------------|
| | 1997 | 2005 | 1997 | 2005 |
| Agree: Work Harder | 58.0 | 56.5 | 64.2 | *** 61.6 |
| Agree: Proud | 64.0 | * 65.6 | 64.1 | 65.4 |
| Agree: Turn Down Higher Pay | 24.3 | *** 27.3 | 26.2 | *** 28.9 |
| High Job Satisfaction | 41.1 | 42.0 | 40.3 | *** 43.3 |

Notes: Weighted Data; ***, ** and * = significant difference by year at the one, five and ten per cent levels respectively.

Table 4. The Country Distribution of Worker Commitment. ISSP 1997 and 2005

| | Agree: Work Harder | Agree: Proud | Agree: Turn Down Higher Pay | High Job Satisfaction |
|-----------------------|-------------------------------|---------------------|--|----------------------------------|
| <i>Canada</i> | 64.9 | 67.1 | 18.5 | 38.5 |
| <i>Czech Republic</i> | 55.5 | 43.9 | 26.3 | 27.6 |
| <i>Denmark</i> | 66.1 | 67.1 | 29.6 | 58.3 |
| <i>France</i> | 24.6 | 55.4 | 15.8 | 28.9 |
| <i>Great Britain</i> | 63.8 | 60.1 | 21.2 | 39.0 |
| <i>Hungary</i> | 57.1 | 51.3 | 14.9 | 26.7 |
| <i>Japan</i> | 61.5 | 57.5 | 44.4 | 28.2 |
| <i>New Zealand</i> | 67.9 | 71.5 | 22.8 | 40.7 |
| <i>Norway</i> | 61.8 | 66.2 | 22.1 | 37.8 |
| <i>Portugal</i> | 63.9 | 79.2 | 42.9 | 40.2 |
| <i>Spain</i> | 41.5 | 62.4 | 23.9 | 46.5 |
| <i>Sweden</i> | 47.4 | 58.0 | 15.4 | 39.8 |
| <i>Switzerland</i> | 68.4 | 70.7 | 35.2 | 56.0 |
| <i>USA</i> | 79.2 | 79.2 | 26.9 | 52.0 |
| <i>West Germany</i> | 61.9 | 56.0 | 30.9 | 43.0 |
| <i>Total</i> | 60.3 | 64.8 | 26.7 | 41.7 |

Note: Weighted Data.

Table 5A. Overall Job Satisfaction and Commitment Regressions. ISSP 1997 and 2005.

| | Work Harder to Help Firm | Proud to Work for my Firm | Turn Down Higher Pay to Stay | Job Satisfaction |
|--|-----------------------------|------------------------------|------------------------------------|---------------------|
| 2005 | -0.009 (0.016) | 0.042* (0.016) | 0.070** (0.016) | 0.034* (0.016) |
| Male | 0.133** (0.016) | -0.019 (0.016) | 0.002 (0.016) | -0.037* (0.015) |
| 30 to 44 | -0.005 (0.022) | 0.047* (0.022) | 0.151** (0.023) | 0.012 (0.022) |
| 45 to 65 | -0.021 (0.023) | 0.087** (0.023) | 0.292** (0.024) | 0.111** (0.023) |
| Married | 0.043* (0.017) | 0.118** (0.017) | 0.094** (0.017) | 0.115** (0.017) |
| Years of Education | 0.014** (0.002) | 0.011** (0.002) | 0.001 (0.002) | 0.007** (0.002) |
| West Germany | -0.120** (0.045) | -0.390** (0.045) | 0.190** (0.046) | -0.274** (0.044) |
| Great Britain | 0.012 (0.047) | -0.264** (0.047) | 0.023 (0.047) | -0.403** (0.046) |
| USA | 0.394** (0.041) | 0.165** (0.041) | 0.045 (0.040) | -0.222** (0.040) |
| Hungary | -0.174** (0.045) | -0.515** (0.046) | -0.248** (0.046) | -0.630** (0.045) |
| Norway | -0.118** (0.038) | -0.186** (0.038) | 0.087* (0.039) | -0.363** (0.038) |
| Sweden | -0.359** (0.041) | -0.401** (0.041) | -0.286** (0.042) | -0.430** (0.040) |
| Czech Republic | -0.206** (0.044) | -0.689** (0.045) | 0.088* (0.045) | -0.548** (0.044) |
| New Zealand | 0.037 (0.042) | -0.078 (0.042) | 0.063 (0.042) | -0.405** (0.041) |
| Canada | -0.041 (0.047) | -0.105* (0.047) | -0.036 (0.047) | -0.441** (0.046) |
| Japan | -0.063 (0.047) | -0.358** (0.047) | 0.545** (0.048) | -0.806** (0.046) |
| Spain | -0.579** (0.048) | -0.290** (0.048) | -0.018 (0.049) | -0.300** (0.047) |
| France | -0.968** (0.040) | -0.413** (0.040) | -0.258** (0.040) | -0.583** (0.039) |
| Portugal | -0.005 (0.042) | 0.332** (0.042) | 0.409** (0.042) | -0.338** (0.041) |
| Switzerland | 0.042 (0.038) | -0.113** (0.038) | 0.329** (0.039) | -0.054 (0.037) |
| Observations | 18244 | 18355 | 17580 | 18620 |
| Log-Likelihood | -24924.60 | -23249.97 | -26201.15 | -27142.54 |
| Log-Likelihood at zero | -25753.89 | -23794.73 | -26729.52 | -27526.66 |
| $\chi^2(14)$ test statistic for country dummies | 1562.7 | 998.8 | 756.7 | 673.7 |
| $\chi^2(14)$ test statistic for country dummies (no other controls) | 1530.4 | 969.7 | 768.4 | 636.4 |

Notes: Standard errors in parentheses. * significant at 5%; ** significant at 1%.

Table 5B. Overall Job Satisfaction and Commitment Regressions with Earnings and Hours. ISSP 1997 and 2005.

| | Work Harder to Help Firm | Proud to Work for my Firm | Turn Down Higher Pay to Stay | Job Satisfaction |
|--|-----------------------------|------------------------------|------------------------------------|---------------------|
| 2005 | -0.006 (0.018) | 0.044* (0.018) | 0.053** (0.018) | 0.021 (0.017) |
| Male | 0.069** (0.018) | -0.099** (0.019) | -0.039* (0.019) | -0.066** (0.018) |
| 30 to 44 | -0.021 (0.024) | 0.015 (0.024) | 0.136** (0.025) | -0.007 (0.024) |
| 45 to 65 | -0.040 (0.025) | 0.043 (0.026) | 0.264** (0.026) | 0.075** (0.025) |
| Married | 0.026 (0.019) | 0.109** (0.019) | 0.071** (0.019) | 0.081** (0.018) |
| Years of Education | 0.008** (0.003) | 0.005 (0.003) | -0.003 (0.003) | 0.002 (0.003) |
| Earnings (\$000) per month | 0.044** (0.008) | 0.051** (0.008) | 0.050** (0.008) | 0.062** (0.008) |
| Hours per week | 0.008** (0.001) | 0.006** (0.001) | 0.001 (0.001) | -0.000 (0.001) |
| West Germany | -0.134** (0.047) | -0.415** (0.048) | 0.185** (0.048) | -0.318** (0.046) |
| Great Britain | 0.022 (0.049) | -0.282** (0.049) | 0.022 (0.049) | -0.434** (0.048) |
| USA | 0.349** (0.043) | 0.113** (0.043) | 0.020 (0.043) | -0.261** (0.042) |
| Hungary | -0.215** (0.052) | -0.574** (0.052) | -0.251** (0.052) | -0.605** (0.051) |
| Norway | -0.119** (0.040) | -0.207** (0.040) | 0.073 (0.040) | -0.399** (0.039) |
| Sweden | -0.347** (0.042) | -0.406** (0.043) | -0.274** (0.044) | -0.444** (0.042) |
| Czech Republic | -0.197** (0.050) | -0.708** (0.051) | 0.088 (0.051) | -0.567** (0.050) |
| New Zealand | 0.015 (0.053) | -0.120* (0.053) | 0.070 (0.053) | -0.477** (0.052) |
| Canada | -0.057 (0.049) | -0.144** (0.050) | -0.065 (0.050) | -0.495** (0.048) |
| Japan | -0.082 (0.051) | -0.390** (0.051) | 0.535** (0.051) | -0.813** (0.050) |
| Spain | -0.593** (0.055) | -0.298** (0.056) | -0.012 (0.056) | -0.304** (0.055) |
| France | -0.946** (0.042) | -0.421** (0.042) | -0.254** (0.042) | -0.587** (0.041) |
| Portugal | 0.003 (0.046) | 0.364** (0.047) | 0.387** (0.046) | -0.361** (0.045) |
| Switzerland | 0.023 (0.041) | -0.167** (0.041) | 0.287** (0.041) | -0.135** (0.040) |
| Observations | 15667 | 15760 | 15089 | 15976 |
| Log-Likelihood | -21399.14 | -19886.93 | -22437.11 | -23271.93 |
| Log-Likelihood at zero | -22222.14 | -20431.11 | -22916.76 | -23644.53 |
| $\chi^2(14)$ test statistic for country dummies | 1277.3 | 832.9 | 589.4 | 495.2 |
| $\chi^2(14)$ test statistic for country dummies (no other controls) | 1391.1 | 869.3 | 674.1 | 575.2 |

Notes: Standard errors in parentheses. * significant at 5%; ** significant at 1%.

Table 6. Worker Commitment and the Macro Economy

| | Work Harder to Help Firm | Proud to Work for my Firm | Turn Down Higher Pay to Stay |
|---------------------|-------------------------------------|--------------------------------------|---|
| Unemployment Rate | -0.044** (0.016) | -0.009 (0.016) | -0.023 (0.013) |
| Inflation | -0.001 (0.018) | -0.018 (0.019) | -0.027 (0.015) |
| Labour Productivity | -0.001 (0.006) | 0.004 (0.007) | -0.006 (0.005) |
| Constant | 0.285 (0.265) | 0.047 (0.277) | 0.315 (0.217) |
| Observations | 29 | 29 | 29 |
| R-squared | 0.243 | 0.085 | 0.211 |

Notes: Standard errors in parentheses. * significant at 5%; ** significant at 1%.

Table 7. Worker Commitment and Societal Variables

| | Work Harder to Help Firm | Proud to Work for my Firm | Turn Down Higher Pay to Stay |
|-----------------------------|-------------------------------------|--------------------------------------|---|
| Population (in 10 Millions) | 0.016* (0.005) | 0.011 (0.008) | |
| Wage and Price Freedom | 0.265** (0.087) | | |
| Civil Liberties Index | | 1.625* (0.712) | |
| Fiscal Burden of Government | | | -0.202* (0.085) |
| Voting Turnout | | | -1.036* (0.407) |
| Constant | 0.332 (0.188) | -1.678* (0.680) | -0.315 (0.426) |
| Observations | 17 | 26 | 16 |
| R-squared | 0.549 | 0.235 | 0.473 |

Notes: Standard errors in parentheses. * significant at 5%; ** significant at 1%.

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