Exploring The Impact of Job Satisfaction Domains on Firm Performance: Evidence from Great Britain

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Abstract

Firm productivity and performance and their determinants are a well addressed topic in the field of management and industrial organization. However, how different job satisfaction domains affect the firm performance remains relatively rare. The aim of this study is to explore the impact of seven job satisfaction domains on firm performance. The analysis relies on firm-level data derived from the Workforce Employment Relations Survey (WERS) in 2004 and 2011 in Great Britain. To reduce the endogeneity issue coming from possible reverse causality between the job satisfaction and firm performance we apply the Two Stage Least Squares (2SLS) method. The findings show that satisfaction with job security and the work itself have the strongest positive impact followed by training, income and sense of achievement. The findings provide valuable insights to firms and managers about the identification of the most important job satisfaction domains affecting firm performance, varying by the industry, firm type and workplace management. This is especially the case in the post-crisis period of 2007, where working conditions have experienced major changes, and will experience further changes and new challenges due to the COVID-19 pandemic.

Keywords: Employment relationships; Instrumental Variables; Job Satisfaction; Job Security; Organizational Performance; Workforce Employment Relations Survey

JEL Codes: D23, J24, J28, L25, M54, O15

1. Introduction

A person's subjective well-being is regarded as an imperative goal of public policy and it is quite high on the political agenda (Stiglitz et al., 2009; Layard, 2011; Bryson et al., 2017). The growth of Gross Domestic Product (GDP) for many years has been used to measure people's quality of life. However, after several researches have been conducted, it is found that citizens in developed economies with higher GDP levels, are not necessarily happier as a result of an increase in prosperity of the country. This reason has then diverted government and policy makers' attention to other measures, such as improvement of the individuals' subjective well-being.

There are quite several studies that have researched the impact of Subjective Well-being (SWB) on firm performance (e.g. Bakotić, 2016; Bryson et al., 2017; Raab, 2020), while other studies have explored the role of training, income and job security on employee engagement and performance (Ogbonnaya et al., 2017; Sheikh et al., 2018; Richter and Näswall, 2019). However, the contribution of this paper is the investigation of the impact of seven job satisfaction domains on the firm performance, measured by financial performance and labour productivity. Indeed, instead of exploring only the overall job satisfaction, as earlier studies have examined, investigating each job satisfaction domain separately, we can identify the significance and the size of the impact of each domain on firm performance. Hence, the results derived from this study can be of value to policy makers, to see which aspects of SWB of an employee has more impact on financial performance and labour productivity. This will be particularly useful especially in the UK, where the government is currently looking for ways to boost the total output in the economy (Office for National Statistics, 2017).

The structure of the study has as follows. In section 2 we discuss the literature review and the evidence linking subjective well-being and firm performance. In section 3 we present the

theoretical framework and the empirical model, while in section 4 we report the data used in the empirical analysis. Section 5 presents the results and section 6 discusses the main concluding remarks.

2. Literature Review

Many studies have been researching whether SWB contributes to an increase in performance at workplaces (Jones et al., 2007; Spagnoli et al., 2012). Often, good skilled jobs, with good payment and jobs providing security are associated with low levels of non-attendance and absenteeism and both good physical and mental well-being. A research conducted by Taris and Schreurs (2009), which studied the relationship between subjective well-being and productivity on a large scale organizational level, suggests that improvement in the individual well-being leads to high individual-level performance and, in turn, leads to a high organizational performance in Netherlands. However, the limitation of this study is the multi-level problem (Bliese and Jex, 1999), meaning that the findings derived at the individual level were used to determine the organization level. This might not present accurate results as there are other factors which contribute to the performance of an organization as a whole. On the other hand, some studies, such as the study by Koys (2001), argued that the individual level is related to organizational level, but the only thing is the mechanism used to account for these cross-level associations is unknown. Nevertheless, our study contributes to the literature, as the empirical regression analysis controls for other employee and firm characteristics that can act as confounders to job satisfaction and the outcomes explored. Furthermore, we aggregate the individual characteristics and job satisfaction

domains at firm-organizational level, which allows us to build the link between well-being and firm's performance.

Similarly, Bockerman and Ilmakunnas (2012) examined the extent at which job satisfaction may act as a proxy to well-being, may affect the establishment productivity of employees in Finnish manufacturing plants, employing data from the European Community Household Panel (ECHP) between 1996-2001. Using the Ordinary Least Squares (OLS) method, the results revealed that a one-point average rise in the job satisfaction level of an employee, increases the value added per hours worked by 3.6 percent in manufacturing.

There is also some evidence that shows a positive and significant relationship between the average level of job satisfaction at workplace and performance (Bryson et al., 2017). The authors used both the cross-sectional 2011 data and the panel data 2004-2011 to examine the relationship between SWB of an employee at workplace and their performance, applying the ordered Probit regression. The findings suggest that the labour productivity was higher in organizations with very satisfied employees, and these organizations also exhibit higher quality levels of output and generally higher performance.

In a similar fashion, Bakotić (2016) explores whether there is an empirically provable link between job satisfaction and organizational performance and the direction and strength of this relationship. The data used in this study was a survey of 5,806 employees of 40 large and medium sized Croatian companies. The results from the analysis conducted, support the notion that firms with more satisfied employees are more successful and perform better than firms with less satisfied employees. To further strengthen the analysis, Bakotić (2016) also examined the relationship between different factors of job satisfaction, such as salary, leadership, opportunities for advancement, and he found statistically significant results to further provide evidence that job

satisfaction is positively correlated with performance. The inverse relationship of organizational performance on job satisfaction was also statistically significant; however, has a lower intensity than the relationship between job satisfaction and organizational performance that could be due to other factors that influence job satisfaction, such as an individual's living environment. Similarly, the study by Raab (2020) explores the happiness of old workers in Europe using data from the Survey of Health, Aging and Retirement in Europe (SHARE), and the findings suggest that happiness is strongly related to job rewards, opportunities to develop new skills and recognition for their work, while salary has a weaker impact.

Previous studies have explored also specific job characteristics and their relationship to firm performance. For instance, training and income are found to be positively linked to the job satisfaction, employee loyalty and organizational commitment (Raithatha and Komera, 2016; Ogbonnaya et al., 2017; Sheikh et al., 2018; Saridakis et al., 2018), which may result to higher productivity and firm performance. Other studies suggest also job security, initiatives and achievement at work are positively related to employee engagement and performance (Sverke and Hellgren, 2002; Thomas et al., 2010; Belschak et al., 2010; Huang et al., 2013; Richter and Näswall, 2019).

However, the main limitation of these studies is that the empirical analysis is limited only to the overall job satisfaction, and the domains of job satisfaction are not separately explored. While it is generally expected to find a positive impact of the job satisfaction on workplace performance, yet, little is known about the individual effects of each job satisfaction domain. Whether is satisfaction with job security, initiatives, income, training or the sense of achievement that matters more, the results may provide valuable insights on policy implementation taken by the firms.

Second, the empirical analysis in the earlier studies is only correlational and there is no concrete evidence of a causal link between subjective well-being and firm performance. Hence, the problem of endogeneity due to possible reverse causality and the omitted-variable bias is not addressed. Thus, our second contribution is that we attempt to reduce the endogeneity issue implementing an Instrumental Variable (IV) approach and the 2SLS method.

3. Methodology and Data

3.1 Measures of Job Satisfaction and Firm Performance

The job satisfaction domains used in the empirical work are measured on as scale from 1 (very dissatisfied) to 5 (very satisfied) and are the following:

- **The scope for using your own initiative (mean: 3.720)**. This is when an employee takes a proactive decision to influence workplace environment (Crant and Bateman, 1993). Taking initiatives helps the employees to develop valuable skills and in the process, to learn more about the organization they work for, which brings a positive change in the workplace (Morrison and Phelps, 1999).
- **The amount of influence (mean: 3.597)**. Influence is one of the main components of employee engagement, where is defined as the condition that the employee feels involved, empowered, having influence on the decisions that affect their work and outcome. In the case employees desire to have an influence on their work then are more likely to give valuable inputs and innovative ideas that move the workplace and the organization forward (Mone and London, 2010).

- **The sense of achievement you get from your work (mean: 3.824)**. According to the Herzberg theory (1964), there are two dimensions of employee satisfaction; the *Hygiene* issues and *Motivators*. *Hygiene* issues are not meant to motivate workers, but to help reduce their dissatisfaction with their job, such as examples on working environments and company policies. On the other hand, *Motivators* can create satisfaction by enabling an individual to feel she has achieved some personal growth; hence encouraging productivity. Examples of motivators include achievement and recognition (Gawel, 1997).
- **The training you receive (mean: 3.376)**. Training is meant to provide employees with the valuable skills and knowledge required to excel at their job, because not everyone resume their job having the required knowledge and competency needed to carry out their tasks (Fitzgerald, 1992). If employees resume tasks they do not necessarily know how to do, it will consequently discourage them as they will find the job extremely challenging, which will lead to demotivation, and thus, to lower productivity that will be financially detrimental to the company performance (Truong et al., 2010).
- **The amount of pay you receive (mean: 2.940)**. The amount of pay an employee receives is usually viewed by economists as synonymous with happiness. It does make sense that there is a positive relation between SWB and income. It is well-documented that income increases job satisfaction (Clark and Oswald, 1996).
- **Job security (mean: 3.509)**. This is defined as the assurance that employees continue to remain at their job with respect to the general economic condition of the country (Lucky et al., 2013). The situation where employees are constantly worrying about the safety of their job, it will tend to reduce productivity as they are stressed out and will not focus as much on the activities that they are meant to be carrying out (Lucky et al., 2013).

- **The work itself (mean: 3.829)**. A great way to motivate employees is to explain to them how important are the tasks they will be undertaking. It is important to highlight to employees that what they contribute adds positive outcomes to the organization. Although, employees might not necessarily find all the tasks particularly enjoyable, they will however, endeavour to complete the task as they know it leads to the success of the company. According to Randall and Cote (1991) and Vandello and Cohen (1999), work itself includes many aspects of the job satisfaction domains we discussed above, such as amount of influence, authority and autonomy at work, sense of achievement and creativity, as well as, variety and responsibility.

3.2 Relationship Between Job Satisfaction Domains and Firm Performance

The outcomes explored include the self-reported financial performance and labour productivity, which answer to the following question: "Compared with other workplaces in the same industry how would you assess your workplace's financial performance and labour productivity?" The outcomes are measured on a Likert scale of 0-4, where 0 indicates *a lot below average* and 4 indicates *a lot above average* (Department for Business, Innovation and Skills, 2011). However, since the outcomes refer to firm level, while job satisfaction and other employee characteristics are based on individual level, we take the averages of the individual characteristics to match at the firm level. In figure 1 we present the methodological framework of the empirical analysis.

(Insert Figure 1)

Based on figure 1 and earlier studies we discuss the expected impact of the job satisfaction domains on the firm performance outcomes explored. Regarding the first four job satisfaction

domains, and in particular, *the use of initiative*, *the amount of influence*, *the sense of achievement*, and *training*, we expect a positive impact on firm performance. The first three job satisfaction domains seem to be interrelated, as initiative can be strongly related to influence and consequently may affect the sense of achievement derived from the work. However, schemes that not only provide training, but also promote recognition, encourage initiative actions from the employees, and provide rewards can be more effective, rather than simply educate or limiting the training process to the basics of the work that should be done. Earlier studies within these domains typically have examined the positive aspects of proactivity and they found indeed, that there is meta-analytic evidence for a link between personal initiative, amount of influence, sense of achievement and job performance (Thomas et al., 2010; Belschak et al., 2010). However, scholars have pointed out the concern about the potential positive role of sense of achievement and initiatives taken, where a higher degree of initiative actions does not necessarily imply a higher performance. Moreover, there should be the required skills from the employees' side to effectively execute initiatives and have influence at work to achieve the expected outcomes, which is the firm performance. For this reason, we control for relationships between managers and employees, performance related schemes and also the education level and the employees' skill matching to their work.

The fourth job satisfaction domain, *training*, can be strongly related with the three above factors we have discussed. In particular, the use of initiatives, influence and sense of achievement can be done through training processes and schemes that enhance the skills and knowledge of employees. According to Pfeffer and Cohen (1984) companies may arrange training schemes and processes focused on special needs that need to derive from their employees. Moreover, the training can reduce the anxiety and stress of employees that are related to expected outcomes, which eventually may develop a sense of achievement, satisfaction and thus, resulting in the enhancement of the

firm performance. Thus, while we expect a positive impact of training on firm performance, due to the learning process of the job requirements, at the same time, training can affect positively the firm performance, through the sense of achievements and initiatives by reducing anxiety and stress.

Income is another job satisfaction domain explored. A number of studies found a positive link between salary and firm performance (Raithatha and Komera, 2016; Sheikh et al., 2018). The satisfaction with income and salary can have a positive impact on firm performance through various channels. On the one hand, already productive and high skilled employees receive a higher compensation that results to higher firm performance. On the other hand, income may act as an incentive scheme increasing job satisfaction, trust in management and organizational commitment, resulting to higher levels of productivity and performance (Ogbonnaya et al., 2017).

The next job satisfaction domain explored is the job insecurity, which is a common phenomenon in the workplace, regardless of any particular situation (Sverke and Hellgren, 2002; Huang et al., 2013). Job insecurity has been shown to be one of the most common and prominent occupational stressors and has been found to be negatively associated with the employee's job satisfaction, involvement, engagement, commitment and trust to the organization (Sverke et al., 2002; Cheng and Chan, 2008). Furthermore, the impact of job insecurity on firm performance can be further understood by the relationship between job security and trust through the psychological contract framework. More specifically, employees who experience insecurity in their job are mostly likely to perceive their psychological contract with the organization as broken. Earlier studies suggest that the breach in psychological contract is associated with adverse effects in general and also work related outcomes, such as job satisfaction and organizational commitment (Aryee et al., 2002; Conway et al., 2011).

About the last job satisfaction domain, the work itself, the expected direction is a positive impact on firm performance. The work itself reflects employees' feelings about their actual work tasks and it focuses on what employees actually do. Overall, even though the job satisfaction domains discussed so far are more or less specific, this job domain includes various characteristics. In particular, it reflects the degree to which work tasks fit to the employee's needs and skills, it captures the degree employees feel that they are key drivers of the quality of the outcomes-outputs and it reflects the degree the employees know what to do. Therefore, satisfaction with the work itself, implies that employees meet these requirements and needs, resulting to a higher commitment to the organization and a higher level of firm performance (Colquitt et al., 2011).

3.3 Econometric Model and Ordinary Least Squares (OLS)

$$Y_{k,j,t} = \beta_0 + \beta_1 SWB_{k,j,t} + \beta' \mathbf{Z}_{k,j,t} + l_j + \theta_t + \varepsilon_{k,j,t} \quad (1)$$

In Equation (1), *Y* represents the outcome explored, which is the firm performance expressed by financial performance and labour productivity. *SWB* represents the individual's satisfaction within specific job domains, described earlier. Nevertheless, the strategy followed is to make use of the full cross-section surveys, including both the panel and non-panel components, which provides us with the possibility to view and follow a comparative analysis of the trends across the firms. Subscript *j* represents the industry fixed effects, expressed by the International Standard Industrial Classification (ISIC), *t* indicates the time-year effects and *k* denotes the firm. However, we do not employ firm-fixed effects, as the surveys do not follow the same firms across time. Set θ denotes the time-year fixed effects and accounts also for the economic shock of the 2007-2008 financial crisis, as we use data before and after the economic recession. The error term ε indicates the unobserved influence on the dependent variable. The regressions are based on robust standard

errors to solve for heteroscedasticity. Furthermore, to yield accurate estimates for the main parameters of interest in the empirical work we account for sampling weights. Vector **Z** includes the control variables split in three categories.

- Individual Characteristics, such as the employee's age, gender, marital status, academic qualifications, family and child care, member of trade union or staff association, working experience and matching of employee's skill with the requirements of work.
- Firm Characteristics include performance pay scheme, relationship between employees and managers, the workplace status, such as whether is public, private Limited Company or Partnership, total number of employees and the employee's pay linked to outcome of the performance appraisal
- Industry Characteristics, such as competition from firms in domestic and/ or abroad and the market the firms are operated e.g. local regional, national and international level.

3.4 Instrumental Variables (IV) Approach and Two-Stage Least Squares (2SLS) Estimates

The SWB measures are likely to be endogenous due to measurement error and self-reported perceptions, but also due to possible reverse causality between SWB and firm performance. To be more specific, while job satisfaction may affect the firm performance, firms that perform better can also affect well-being, which in turn may improve job satisfaction due to for example, a rise

in wages. So, this could have an upward or downward bias on the estimated coefficient of the job satisfaction domain.

2SLS is one of the most potent tools to treat endogeneity caused by reverse causality, measurement error or variables which have been omitted (Greene, 2008). The estimator relies on Instrumental Variables, which are exogeneous regressors of the endogeneous variables. For example, in our analysis, if SWB and the error term ε do not correlate, the regressions will provide consistent estimates. So in essence, 2SLS takes out the portion of variance in SWB that correlates with the error term. If we reject the null hypothesis, we conclude that our instrument(s) used are not weak, implying that they cause the endogenous variable. A common practice is to derive the *F-statistic* from the first stage regressions, and a rule of thumb is that a value higher than 10 is enough to reject the null hypothesis (Stock and Yogo, 2005).

Following the study by Saridakis et al. (2018) the first set of instruments includes flexible employment schemes, and in particular, whether there is available in the workplace the option of working at home; ability to increase or reduce working hours; flexitime, where an employee can set the string and ending time; job sharing; ability to change shift patterns and working compressed hours. The second set of instruments includes:

- How much of your time has your job made you feel gloomy?
- How much of your time has your job made you feel uneasy?
- How much of your time has your job made you feel mizerable?
- Managers here can be relied upon to keep to their promises
- Managers here understand about employees responsibilities outside workplace
- Managers here treat employees fairly

These variables are calculated as the firm-year averages, and the justification of using them is that they are correlated with the main domains of job satisfaction, but are orthogonal with the dependent variables, which is the firm performance measures. In other words, these instruments will not affect the dependent variables; thus, conditioning on the main dependent variables of interest- job satisfaction domains- the correlation path between the instruments and the outcomes is blocked. According to earlier studies, this set of variables consists of emotions that directly affect job satisfaction, but not the firm performance, as these express the emotional bond between the employee and the organization (Akomolafe and Olatomide, 2013).

3.5 Data

This study will make use of the data derived from the Workplace Employment Relations Survey (WERS) in years 2004 and 2011 gathered by the Department for Business, Innovation and Skills (2004 and 2011). WERS data comprises of national surveys of employees from different sectors of the British economy; however, it excludes data for firms operated in the agriculture and mining sector. These data contain several measures of employees' subjective well-being which will help strengthen our analysis of the link between SWB and workplace performance in Britain. The aim of the survey is to gather reliable evidence about different areas of employment relations and other firm and employee characteristics. The WERS data comprises of three different components to the survey. First, there is the manager survey, which is conducted as a face to face interview directed at senior managers of the workplaces. The second component of the survey is a random questionnaire distributed to 25 employees in each workplace where the management interviews were carried out. A total of 21,981 out of 40,513 questionnaires in each year was delivered, which

equates to about 54 percent could be made use of (Department for Business, Innovation and Skills, 2011). The third component is the panel data gathered within the survey. About 989 workplaces were interviewed back in 2004 and are also included in the overall 2,680 workplaces interviewed in 2011. Within this panel workplaces, there was a 52 percent response rate from the management survey and 600 out of these 989 panel workplaces produced 7,943 and 7,324 responses from the employees in 2004 and 2011 respectively.

4. Empirical Results

In this section we report and discuss our main findings. In table 1 we present the OLS and 2SLS estimates for the relationship between the job satisfaction domains and the financial performance. According to these results, an increase in job satisfaction about the training received leads to a positive impact on financial performance by 12 and 15.5 percent based respectively on OLS and 2SLS estimates. Training is found to be important, as it may positively contribute to employee engagement and help employees to acquire the skills and knowledge they need to perform their jobs, leading to improved quality of the outcomes-outputs, and increasing the financial performance of the workplace (Jehanzeb and Bashir, 2013; Patro, 2013). Furthermore, according to the study by Cheng and Chan (2008), training schemes may influence the attitudes and emotions of employees that minimize their anxiety about the expected outcomes and help then to develop a sense of achievement. Following this discussion, using the OLS method we also find a significant relationship between the "sense of achievement" and financial performance at 9.3 percent, while the 2SLS estimates show an impact of 17 percent.

The next job satisfaction domain explored is the "amount received or the labour income", which is the one that most commonly believed has the strongest impact on firm performance. According

to table 1 we find a positive impact on financial performance by 9.5 percent using the OLS and 12.8 percent using the 2SLS method. This is supported from other studies that suggest a positive relationship between financial performance and compensation (Raithatha and Komera, 2016; Sheikh et al., 2018).

Job security" and the "work itself" are the last two job satisfaction domains explored. We observe a significant and positive impact of job security on financial performance by roughly 24 and 17 percent, while we find an insignificant estimated coefficient of the satisfaction with the work itself using the OLS method, but it becomes significant at 18 percent using the 2SLS. Our findings are consistent with previous studies that support a positive link between job security, work itself and financial performance (Sverke et al., 2002; Cheng and Chan, 2008; Colquitt et al., 2011). In conclusion, we observe that the job insecurity and work itself followed by income, training and sense of achievement, present the largest impact on financial performance.

On the other hand, it is interesting to see that using the OLS method, "the scope of using own initiative" and "the amount of influence" are statistically insignificant. While it could be expected that initiatives and influence could have a potential positive effect on financial performance, it is not the case in our study. We recognize that based on the information available in the data we employ we cannot identify the particular reasons explaining the insignificant impact of those two job satisfaction domains. Furthermore, as we show later, satisfaction domain "using your own initiative" does not affect also labour productivity.

(Insert Table 1)

The second firm performance outcome explored is labour productivity. In table 2 we report the OLS and 2SLS estimates, where we observe a positive relationship between the job satisfaction

domains and labour productivity, except for the "scope of using initiative", where we have discussed earlier the reasons we find an insignificant impact on firm performance.

The "amount of influence" has a positive impact at 7.9 percent, while it raises at 12.4 percent based on the 2SLS. Based on our favoured estimates, the 2SLS, the impact of the sense of achievement, training and income is ranging between 10.3 and 10.7 percent, while the "Job security" and the "work itself" improve labour productivity at around 12.6-13 percent. As we have discussed earlier, income can act as an incentive to work harder, smarter and more efficiently leading to a higher labour productivity at the firm level (Konings and Vanormelingen, 2015; Raithatha and Komera, 2016; Sheikh et al., 2018). Our findings are also consistent with studies found a positive relationship between sense of achievement, training and labour productivity (Belschak et al., 2010; Konings and Vanormelingen, 2015; Ogbonnaya et al., 2017).

(Insert Table 2)

The analysis conducted in this study suggests a positive relationship between job satisfaction domains and firm performance. Just like several other studies (Ellinger et al., 2002; Mafini and Pooe, 2013; Latif et al., 2013), this paper has also presented findings that align with studies that reported a positive relationship between job satisfaction and firm performance. However, unlike other studies that have investigated this subject using the overall job satisfaction, our analysis considers each domain-aspect separately and the results show which aspects of job satisfaction present a higher effect on the measures of firm performance explored in this paper.

In table 3 we report the estimated coefficients for the control variables. However, due to space limitations we do not further elaborate the findings, as it is out of the current study's objective. We

should notice that the regression coefficients are derived by the OLS and 2SLS when we use "the sense of achievement you get from work" as the job satisfaction domain. We do not present the estimated coefficients of those variables derived from the rest of the job satisfaction domains, because the results, if not identical, are very close with those found in table 3. Also, it is important to mention that we do not include all the job satisfaction domains in one regression for two main reasons. First, there would be a strong degree of multicollinearity, where the estimated coefficients can be biased, presenting even the wrong sign. Second, following the previous issue, we would be unable to disentangle the causal effects especially when we use the 2SLS.

It is important to check the validity of the instruments used in our 2SLS regressions and the results derived for analysis suggest that we reject the null hypothesis that our instruments are weak. We have also accepted the null hypothesis of no endogeneity according to the Hansen J statistic, suggesting that our instrumental variables are exogenous and are not correlated with the error term. Exception is the regression when we consider the income and the financial performance, where according to the p-value of the J Hansen statistic, we reject the null hypothesis, which is no-endogeneity, at 10 percent (p-value=0.0713).

(Insert Table 3)

We should notice that this study is not without limitations. One major drawback is the fact that the data used have not a panel structure, and thus, the same individual across time is not followed. Second, the long period between the two waves is quite long, as WERS only collects data every seven years. To make the analysis stronger, it would be worthy to collect data on a yearly basis and to rely on a panel structure.

5. Discussion and Conclusion

This study investigated various domains of job satisfaction to find out their impact on firm performance. Our findings are consistent with earlier studies that have investigated this subject, where we found a positive correlation between the various job domains and firm performance. Therefore, this implies that firms and policy makers should improve the well-being and focus more on certain aspects of job satisfaction, which may vary also by firm type and workplace management.

Even though we have identified the job security and the work itself as the most important characteristics, we argue that firm performance can be additionally improved by enhancing the job satisfaction in other domains, such as training, the amount of influence and the sense of achievement. In other words, our period of investigation includes the post-crisis period, which could have potentially changed the working conditions. Hence, one way to improve well-being and firm performance is through training, mentoring and workshops that may inspire the older employees and empower and motivate the younger workers. Moreover, they can design the work in such a way where day-to-day activities and responsibilities are clear, motivating and meaningful. Providing constant and regular feedback is another way to achieve that, instead of deriving feedback only through quarterly or annual reviews.

Psychological ownership could be another policy as employers may encourage and involve the employees to determine and see the "vision" of the organization and the specific steps required to achieve it. In that case, when employees realize and share the goals of the organization, they can feel most engaged at work. This will provide them with a sense of achievement and ownership through their organization, and not only their job, in the point that their workplace becomes an

important element of their self-identity. In addition, this will eventually lead to a better job satisfaction of the employees, lower turnover and greater organizational commitment, better labour productivity, greater customer satisfaction and higher profits and financial performance. Our results encourage firms to understand which factors affect job satisfaction in order to enhance the job satisfaction of their workers. This will enable them to manage financial gains and other adverse factors that lead to dissatisfaction. Hence, an optimum combination of training schemes, job security, incentives for bonus and increase in earnings, and techniques that engage employees to take more initiatives, feel sense of achievement and influence at their work, will significantly improve the firm performance, which in this study is measured by financial performance, labour productivity and quality of products and services.

While we found that job security presents the strongest impact on firm performance, firms may consider those findings and adjust them to their needs, characteristics and vision. Our findings are particularly related to the current circumstances and developments due to the COVID-19 pandemic crisis, which exposed the fragile system of working relationships and job insecurity. More specifically, the crisis has a devastating impact on the economy, population's health and health care systems, politics and societies at regional, national and global level (Karabag, 2020). One of the measures taken during the lockdowns across the world, includes diffusion of digital technologies, teleworking and working at home. Digitalization is already a central issue of interest for many disciplines that has increased over the recent years and has witnessed an exploding increasing trend during the coronavirus crisis (Karabag, 2020). The COVID-19 crisis has affected not only those who are sick and elderly, but also those who work and they are either at risk of being unemployed, or those who have lost their jobs or they found themselves on unpaid leave. Nevertheless, there is a proportion of individuals working at home or remotely. Earlier studies

suggest that working at home, teleworking and digital technologies can accommodate people with disabilities that have a positive impact on job performance (Giovanis and Ozdamar, 2019). Furthermore, these flexible employment schemes may have a positive impact on job satisfaction (Wheatley, 2017; Giovanis, 2018, 2019) and thus, consequently may affect positively the firm performance, as the evidence of the current study suggests.

Two studies using data from USA and Norway found that almost the 40 percent of the jobs can be plausibly done from home (Dingel and Neiman, 2020; Holgersen et al., 2020). However, the percentage varies by job category, as for instance, it was estimated that almost 67 percent of the clerical support jobs could be done from home or remotely, while only 21 percent of the craft and trade-commercial jobs were seen in the same manner. Another study by Monday.com found that the 69 percent of the workers enjoys working from home more than it was expected and the 54 percent answered that is more productive (Walters, 2020). Thus, these studies present preliminary results and evidence that workers are adjusted quite well in remote working and working from home, which is strongly related to the recent lockdowns taken around the globe to face the COVID-19 pandemic crisis. Hence, future studies may explore the impact on productivity, job satisfaction and job-firm performance not only between teleworkers and non-teleworkers, but also between the same workers who were shifted from working at the employer's premises to teleworking and remote work.

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Figure 1. Conceptual Framework of the relationship between job satisfaction and firm performance

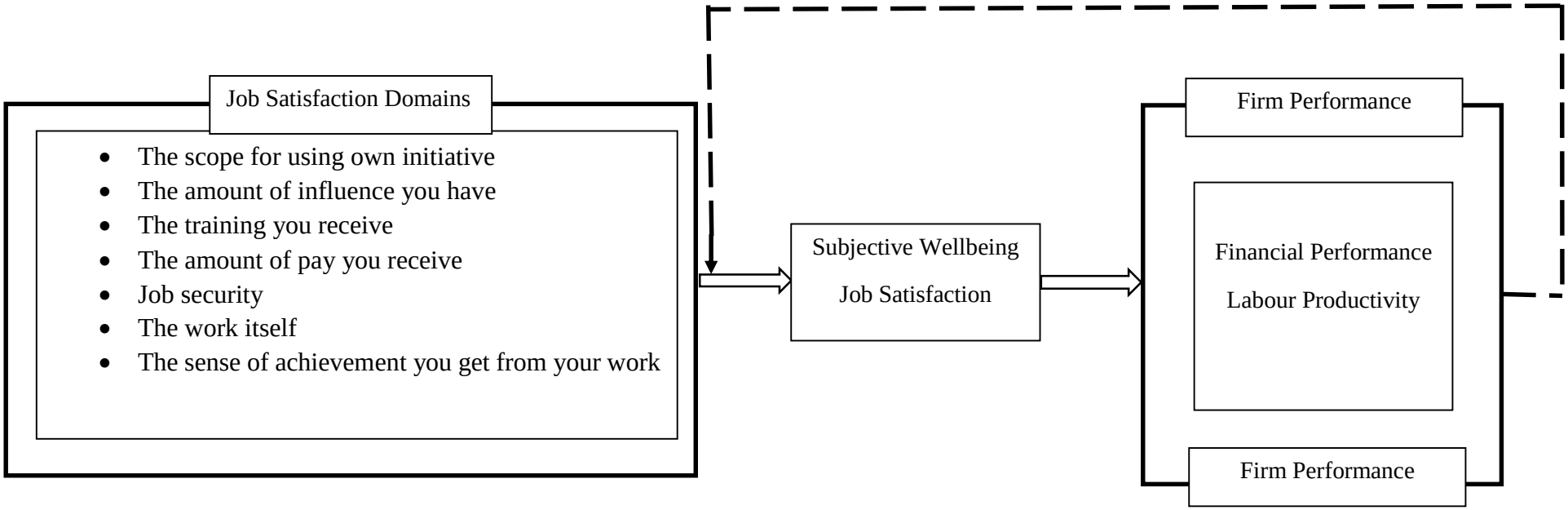

Table 1. OLS and 2SLS for Job Satisfaction Domains and Financial Performance

Variables	OLS-Financial Performance	OLS-Financial Performance	OLS-Financial Performance	OLS-Financial Performance	2SLS-Financial Performance	2SLS-Financial Performance	2SLS-Financial Performance	2SLS-Financial Performance
The scope of using own initiative	0.0347 (0.0458)				0.0753 (0.0906)			
The sense of achievement you get from your work		0.0930** (0.0446)				0.1706** (0.0862)		
The amount of influence you have			0.0167 (0.0446)				0.0730 (0.0821)	
The training you receive				0.1195*** (0.3530)				0.1559** (0.0708)
No. observations	2,282	2,281	2,282	2,280	2,277	2,277	2,277	2,273
R-Square	0.0537	0.0555	0.0535	0.0587				
Centred R-Square					0. 0515	0.0510	0.0510	0.0575
Weak Identification Test					136.434 [0.000]	89.482 [0.000]	164.859 [0.000]	107.909 [0.000]
Hansen J Statistic					5.310 [0.2570]	10.016 [0.1877]	5.178 [0.2695]	9.027 [0.1080]
Variables	OLS-Financial Performance	OLS-Financial Performance	OLS-Financial Performance	2SLS-Financial Performance	2SLS-Financial Performance	2SLS-Financial Performance		
The amount of pay you receive	0.0944*** (0.0313)			0.1282* (0.0687)				
Job security		0.2444*** (0.0349)			0.1772*** (0.0679)			
The work itself			0.0256 (0.0499)			0.1889** (0.0883)		
No. observations	2,281	2,282	2,282	2,275	2,276	2,276		
R-Square	0.0574	0.0769	0.0536					
Centred R-Square				0.0557	0.0743	0.0478		
Weak Identification Test				91.101 [0.000]	103.601 [0.000]	118.446 [0.000]		
Hansen J Statistic				10.143 [0.0713]	7.528 [0.1842]	8.873 [0.1143]		

Robust standard errors in parentheses, p-values are within brackets, *** p<0.01, ** p<0.05, * p<0.1

Table 2. OLS and 2SLS for Job Satisfaction Domains and Labour Productivity

Variables	OLS-Labour Productivity	OLS-Labour Productivity	OLS-Labour Productivity	OLS-Labour Productivity	2SLS-Labour Productivity	2SLS- Labour Productivity	2SLS-Labour Productivity	2SLS-Labour Productivity
The scope of using own initiative	0.0601 (0.0388)				0.0970 (0.0710)			
The sense of achievement you get from your work		0.1034*** (0.0374)				0.1052** (0.0528)		
The amount of influence you have			0.0792** (0.0372)				0.1240* (0.0715)	
The training you receive				0.0609** (0.0296)				0.1071* (0.0625)
No. observations	2,244	2,243	2,244	2,242	2,238	2,237	2,237	2,234
R-Square	0.0711	0.0731	0.7239	0.0716				
Centred R-Square					0.0716	0.0725	0.0726	0.0718
Weak Identification Test					128.974 [0.000]	113.393 [0.000]	134.322 [0.000]	109.061 [0.000]
Hansen J Statistic					3.328 [0.5045]	5.394 [0.3698]	4.559 [0.4720]	4.950 [0.4220]
Variables	OLS-Labour Productivity	OLS-Labour Productivity	OLS-Labour Productivity	2SLS-Labour Productivity	2SLS- Labour Productivity	2SLS-Labour Productivity		
The amount of pay you receive	0.0700** (0.0276)			0.1030* (0.0613)				
Job security		0.1267*** (0.02945)			0.1295** (0.0613)			
The work itself			0.0356 (0.0390)			0.1299* (0.0782)		
No. observations	2,243	2,244	2,244	2,236	2,237	2,237		
R-Square	0.0729	0.0781	0.0704					
Centred R-Square				0.0734	0.0790	0.0697		
Weak Identification Test				84.826 [0.000]	99.579 [0.000]	113.683 [0.000]		
Hansen J Statistic				5.104 [0.4033]	3.460 [0.6295]	4.947 [0.4223]		

Robust standard errors in parentheses, p-values are within brackets, *** p<0.01, ** p<0.05, * p<0.1

Table 3. OLS and 2SLS for the control variables

Variables	OLS-Financial Performance	OLS-Labour Productivity	2SLS-Financial Performance	2SLS-Labour Productivity
Gender (Female)	-0.0068 (0.0060)	-0.009* (0.0051)	-0.0061 (0.0060)	-0.0096* (0.005)
Age	0.2684** (0.1357)	0.3107*** (0.1175)	0.2276** (0.1087)	0.2937*** (0.1147)
Age Square	-0.0027** (0.0012)	-0.0029*** (0.0011)	-0.0026** (0.0012)	-0.0027*** (0.0011)
Marital Status (Reference category-Single)				
Marital Status- Widowed	0.0182* (0.0108)	0.010 (0.010)	0.0180* (0.011)	0.011 (0.010)
Marital Status- Divorced or Separated	0.0286 (0.0207)	0.003 (0.017)	0.031 (0.020)	0.004 (0.017)
Marital Status-Married or Living with partner	0.0215** (0.0104)	0.008 (0.010)	0.023** (0.010)	0.008 (0.010)
Education Level (Reference category- GCSE grades A-C, GCE 'o'-level passes, CSE grade)				
1 GCE 'A' level grades A-E, 1-2 SCE Higher grades A-C, AS levels	0.2803 (0.5360)	-0.443 (0.556)	0.229 (0.531)	-0.438 (0.545)
First degree, eg. BSc	0.6360 (0.4960)	-0.162 (0.484)	0.903** (0.449)	0.161 (0.415)
Higher degree, eg. MSc, MA, MBA, PGCE, PhD	1.0402 (0.6774)	0.281 (0.687)	1.116* (0.658)	0.285 (0.677)
Logarithm of Total Number of employees on payroll	0.0260* (0.0134)	-0.0001 (0.0002)	0.0245* (0.0148)	0.0245* (0.0148)
Do you care for a family member?	-0.00624 (0.0141)	-0.018 (0.012)	-0.005 (0.014)	-0.018 (0.012)
Member of a trade union or staff association	-0.0021 (0.0063)	-0.003 (0.005)	-0.002 (0.006)	-0.002 (0.005)
Employees who receive profit-related payments or bonuses	0.0045 (0.0029)	0.006** (0.003)	0.005 (0.003)	0.006** (0.003)
Proportion of non-managerial employees at this workplace have their performance formally appraised	0.0006 (0.0034)	0.004 (0.003)	0.001 (0.003)	0.004 (0.003)
Employee's pay linked to outcome of the performance appraisal	0.0085*** (0.0031)	0.000 (0.003)	0.008*** (0.003)	0.0001 (0.003)
Is the establishment one of a number of different workplaces in the UK belonging to the same organization	0.0053 (0.0033)	0.001 (0.003)	0.006* (0.003)	0.001 (0.003)

Table 3 (cont.) OLS and 2SLS for the control variables

Variables	OLS-Financial Performance	OLS-Labour Productivity	2SLS-Financial Performance	2SLS-Labour Productivity
How well do the work skills you have personally match the skills you have (Not well)	-0.0254*** (0.0010)	-0.008 (0.008)	-0.027*** (0.010)	-0.008 (0.008)
Relations between managers and employees	0.0304*** (0.0074)	0.0271*** (0.067)	0.027*** (0.008)	0.028*** (0.007)
Years of working at current workplace	0.0166** (0.0071)	0.008 (0.006)	0.016** (0.007)	0.008 (0.006)
Market for your (main) product or service (reference category-local)				
Market for your (main) product or service- Regional	0.0891 (0.0554)	0.097** (0.048)	0.094* (0.055)	0.103** (0.047)
Market for your (main) product or service -National	0.0364 (0.0489)	0.109** (0.043)	0.045 (0.048)	0.115*** (0.043)
Market for your (main) product or service - International	0.0910* (0.0587)	0.174*** (0.051)	0.107* (0.058)	0.176*** (0.050)
No. observations	2,281	2,243	2.275	2,237
R-Square	0.0555	0.0731		
Centred R-Square			0.0544	0.0744
Weak Identification Test			115.422 [0.000]	136.487 [0.000]
Hansen J Statistic			9.825 [0.0803]	3.101 [0.5411]

Robust standard errors in parentheses, p-values are within brackets, *** p<0.01, ** p<0.05, * p<0.1